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or RETAILER — WHOLESALER — MANUFACTURER

MARCH 24, 1951



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WRIGHTS

CHEMIST AND DRUGGIST

for RETAILER — WHOLESALER — MANUFACTURER

MARCH 24, 1951

Published weekly at 28 Essex Street, Strand, London, W.C.2

Telephone: Central 6565 (10 lines). Telegrams: "Chemicus, Estrand, London."

gle copies I-each. Annual subscription, which includes The Chemist and Druggist Diary and Year Book, £2

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NEWS OF THE WEEK

Class Z Reservists' Insurance Contrintions.—Employers' contributions under e National Insurance scheme will be paid the Service authorities for reservists and embers of the Auxiliary Forces called up r training. The employee's contribution all be deducted from his Service pay.

Wages in Co-operative Pharmacies.—rising out of negotiations now proceeding between the Co-operative Societies and the Union of Shop, Distributive and Aled Workers for an increase in wages, it expected that those of pharmacy assistants will also be considered. Negotiations these were broken off in December 150 (see C. & D., 1950.II.699).

Revising Freight Charges.—Mr. T. E. ckson (assistant to the Commercial Supersor (Claims), London Midland Region) mounced in a talk at the National Packing Exhibition in London, recently (see & D., February 10, p. 173) that "in e near future" the basis of classification packages for transport would pay more gard to loading capability (the space hich the merchandise occupies).

Drugs for Merchant Ships. — Amendment No. 5 (M6495/50) to the 1945 edition of the Merchant Shipping Medical Scales, effective from April 1, has been issued by the Ministry of Transport. The amendment includes a specification for an anti-V.D. outfit that consists of a washing cloth and a tube of prophylactic ointment to the following formula:—

Mercurous chloride ... 30 gm.
Sulphathiazole 15 gm.
White soft paraffin ... 40 gm.
Light liquid paraffin ... 14 gm.
Cetyl alcohol 1 gm.
Oil of lavender 0.01 mil
To be supplied in collapsible tubes, with elon-

The length of the nozzle to be not less than $\frac{1}{2}$ in. nor more than $\frac{2}{3}$ in.

Chloramphenicol capsules, 0.25 gm., ampoules of distilled water for injection (2 mils), and vials containing procaine penicillin G, 300,000 international units, and a crystalline penicillin salt, 100,000 i.u.,

are added to the scales.

Chemists Federation.—At a meeting of the Chemists Federation Council on March 8, the president (Mr. Norman Dewey) in the chair, Mr. A. Chapman was re-elected Chairman of the C.F. Propaganda committee; Mr. R. C. Feather Chairman of the C.F. finance and establishment committee; and Mr. D. Hudson was elected Chairman of the standards committee for the ensuing year. The secretary reported that C.F. meetings had been held at Blackpool, Cheltenham, Luton, West Middlesex, Thames Valley and Wimbledon under the auspices of the local branches of the N.P.U. and each meeting had been addressed by either a member of the C.F. Council or the secretary. A budget of expenditure for 1951 was prepared by the C.F. finance and establishment committee and approved by the Council. The Council accepted the resignations of the following manufacturer members: Calfos, Ltd., and Merz & Co., Ltd. The names of the following manufacturers were deleted from the C.F. List: Branded Pharmaceuticals, Ltd., and J. W. Simpson (Chemist), Ltd. The name of Phillips Spencer Dakers & Co., 37 Low Friar Street, Newcastle-on-Tyne, was deleted from the list of approved C.F. wholesalers, and the name of Evans Medical Supplies (Northern), Ltd., at the same address, was substituted. The standards committee examined further C.F. products which were accepted for inclusion in the list prior to the establishment of standards.

LOCAL NEWS

Drugs Theft Charge. — Peter Clowes, a miner, was remanded in custody in Leeds recently charged with warehouse breaking and stealing drugs from Reynolds & Branson, Ltd. (see C. & D., March 17, p. 322). All the stolen property has been recovered,

Hospital Visit.—Members of the Harrogate Branch of the Pharmaceutical Society visited the x-ray and physiotherapy departments of the Royal Bath Hospital, Harrogate, recently. Among the exhibits seen was an illuminated panel of x-ray photographs which occupied a wall of the department, depicting conditions of arthritis and gout. A talk was given by a staff surgeon.

Merseyside Women Pharmacists' Officers.—At the annual meeting of the Merseyside Branch of the National Association of Women Pharmacists, held recently, the following officers were elected:—President, Miss H. G. Irvine; Vice-president, Miss M. Caldecott. The treasurer, registrar, and secretary (Miss M. C. Dodd, Mrs. M. R. Townley and Miss E. F. Llewellyn, 4 Dun-

dee Grove Wallasey, Ches, respectively) were re-elected.

Lecture on Drugs for Children.—The February meeting of the Bristol Branch, Pharmaceutical Society was addressed by Miss Beryl Corner, M.D., Ch.B., M.R.C.P. (Shaw lecturer in diseases of children, and clinical teacher in child health), on drugs used in the early diagnosis of diseases in children. The Branch intends to have similar lectures each winter to bring before members the great expansion in various departments of medical practice.

Exeter Dinner and Dance.—Nearly 200 members and friends attended the annual dinner and dance of the Exeter Branch of the Pharmaceutical Society, recently. Mr. J. J. Leonard (chairman of the Branch), received the guests, among whom were representatives from Plymouth, Torquay, and Cornwall Branches, and the North Devon Pharmaceutical Association.
Dr. S. Noy Scott proposed "The Pharmaceutical Society," and Mr. F. W. Adams (a secretary and the registrar of the Society) responded. Mr. W. N. Boorne (secretary and vice-chairman of the Branch) proposed "The Visitors," and Mr. T. D. Evans (secretary, Torquay Branch) responded. During the reception Mr. Adams, on behalf of the social committee, presented a jewel to be worn at meetings by the holder of the chairman's office.

North Staffs Meeting and Dinner .- A a meeting of the North Staffs Branch of the Pharmaceutical Society held at Hanley or February 14, Mr. H. Clement Shaw spoke on the proposed changes in the Society's charter. Mr. Shaw stressed that the new charter was mainly a protection for pharmacists on the professional and technica levels rather than on a business level, since more than half the members were not proprietors. It was the intention to consolidate the various Acts of Parliament relating to pharmacy, though that would take time.-The annual dinner and dance o the Branch was held on February 22. The lord mayor of Stoke-on-Trent proposed the toast "The Pharmaceutical Society" and Mr. F. C. Wilson (vice-president of the Society) responded. The Branch presiden (Mr. C. E. Turner) proposing "The Guests," said he looked forward to the day when a faculty of pharmacy would be added to the recently established univer sity college in North Staffordshire. Mr. E J. Martin revived a pre-war custom during the evening by filming the reception.

North London Dinner.—The continued popularity of the annual dinner of the North London Pharmaceutical Association, held this year on March 8, was evidenced by the attendance of 174 and by the many important trade figures with whom the president (Mr. Allen Aldington) "took wine." They included the vicepresident and secretary of the Pharmaceutical Society, the chairman and secretary of the National Pharmaceutical Union, the chief pharmacist, Ministry of Health (Dr. H. Davis), the chairman and secretary of the London Pharmaceutical Committee, the joint secretaries of the British Pharmaceutical Conference, the chairman of the Enfield Branch of the Pharmaceutical Society and many others. The guest of honour was the Member of Parliament for Hornsey (Captain Gammans), who responded to the Guests," proposed by Mr. A. G. Felton, after Mrs. Skinner had adroitly spoken up for the ladies. The principal toast of the evening, "The Pharmaceutical Society," was proposed from the chair by Mr. Aldington, who claimed that the local associations in pharmacy fulfilled the demand for unity within the profession, and responded to by Mr. F. C. Wilson (vicepresident of the Society). Dancing and a floor show followed the dinner and the proceedings ended at midnight. (Cartoon, o. 376).

Chemists' Applications for Wine Licences.—Applications by Bowler & Co., chemists, Belper, Derbys, and London Co-perative Chemists, Ltd., High Road, Wilesden, for licences to sell wines were reused recently.—Mr. Norman chemist, Eastthorpe, Mirfield, was granted an off spirits licence at Dewsbury, West Riding, Licensing Sessions, on February 5.

An application made by Mr. Fred Haltead, M.P.S., 6 St. Hubert Street, Great Hardwood, Lancs, was granted subject to limitation that he undertook to sell only nedicated wines.—At the Dewsbury Brew-ter Sessions, an application for a wine icence was granted to Mr. C. A. Algate, M.P.S., The Pharmacy, Chapel Lane, Thornhill.—An application by Mr. I. J. Williams, M.P.S., Ystalyfera, Glam, for a wine and spirit licence for a pharmacy at Brynamman, Carmarthens, was refused at Ammanford court, Carmarthens, recently. -Twenty-three chemists who applied for the renewal of their medicated wine licences to the magistrates for Newcastle and Ogmore, Glam, refused to give under-

takings that they would only sell certain brands of proprietary wines, and their licences were not renewed. On behalf of the chemists it was stated that they wished to sell port, sherry and burgundy in addition to a list of the brands of wine which the bench asked should only be sold. An appeal to the quarter sessions is to be made.—Derby county magistrates granted a wine licence to Mr. R. S. Spencer, M.P.S., 106 Derby Road, Long Eaton, recently.—At the adjourned licensing sessions held at Widnes on March 5, Mr. E. A. Orlans, M.P.S., Liverpool Road, Ditton, Lancs, was granted a wine licence on the condition that only medicated wines were sold.—A full wine licence was granted to Mr. Ivor Lawson, M.P.S., Guide Lane, Audenshaw by the magistrates at Ashton-under-Lyne recently. Nine other chemists applied for the removal of undertakings given on the granting of a wine licence that none but medicated wines should be sold, claiming there was no definition of a medicated wine. The applications were adjourned until May 9.

IRISH NEWS

Poisons Guide. — The Pharmaceutical Society of Northern Ireland is distributing to its members copies of its Poisons Guide which contains notes on Pharmacy and Poisons law in Northern Ireland, the Pharmacy and Poisons Acts (1925 and 1945), and the Poisons Regulations with the extended Poisons Schedule. It includes the recent amendments affecting anti-histaminic drugs.

Amendments. — The Irish Minister for Health has made an Order entitled "The Poisons (Ireland) Act 1870 (Additional Poisons) Order 1951" under which "all preparations of and admixtures of strychnine not intended for the treatment of human ailments" are to be added to Part 1 of the Poisons Schedule, and that "all preparations or admixtures or other substances containing not more than 1.5 per cent. of codeine (calculated as pure drug) associated with any other medicinal substance" are to be added to Part II of the Schedule. The effect of the Order (dated March 2) is that all preparations for the destruction of vermin and pests, or horticultural preparations containing strychnine, now become Part 1 poisons.

Hospital Stocks.—In the Dail recently, Mr. Patrick J. Little asked the Minister for Health to state the quantity and value

of drugs, dressings and hospital equipment now stored in the country, and how far those stores had been distributed to the proper centres throughout the country. The Minister for Health (Dr. N. Browne) replied that he was not aware of their extent and value. Local authorities and the authorities of voluntary hospitals had, however, been authorised to purchase substantial reserve stocks of drugs, medical and surgical dressings and other essential commodities. Steps had already been taken to acquire them which would leave the hospitals with about one year's stock.

SCOTTISH NEWS

Sulphuric Acid Plant for Aberdeen.—Aberdeen Corporation have approved the erection of a sulphuric acid plant at Sandilands Chemical Works, Aberdeen. The installation will be a combination of a flash roasting pyrites furnace—which will be the largest in the world—and a Petersen tower plant, which will be the first to be erected in this country.

Lecture on Intravenous Anæsthetics.— At a meeting of the Dundee and East Scottish Branch of the Pharmaceutical Society at Perth, on February 21, Mr. C. R. Day,

Ph.C. (May & Baker, Ltd.) gave an address on thiopentone sodium and its use in intravenous anæsthesia. Mr. Day said that intravenous anæsthesia was one of the earliest methods of general anæsthesia but for many years it failed to make progress because of the lack of suitable and effective drugs. Subsequent to 1872 attempts to obtain intravenous anæsthesia were frequent and among the products examined were methylpropylcarbinol urethane, ether, chloroform, paraldehyde, magnesium sulphate, and ethyl alcohol. In the meantime certain of the barbituric acid derivatives had been synthesised and found to have a depressant effect on the central nervous system. Various soluble solutions of the barbiturates were administered intravenously but little satisfaction was obtained because the anæsthesia was uncontrollable or its duration of effect was too long. It was not until 1932 that a relatively satisfactory barbiturate was introduced for intravenous injection; that was hexobarbitone sodium. Shortly afterwards thiopentone sodium was introduced in America. That agent had been received almost generally throughout the world and so far no drug had been synthesised which offered any marked improvement over it.

DENTAL MONOPOLIES DRAFT ORDER

A DRAFT order intended to restrict monopolistic practices in the supply of dental goods was presented to Parliament on March 16 by the Minister of Health and the Secretary for Scotland. The draft Order, which is based on the report of the Monopolies and Restrictive Practices Commission (see C. & D., 1950.II.719), proposes to make it unlawful for two or more persons carrying on business in the United Kingdom as suppliers of dental goods

to make any agreement or arrangement relating to (a) the persons to whom any party to the said agreement or arrangement may supply dental goods, whether on preferential terms or otherwise, or (b) the persons from whom, or the terms on which, any such party may purchase dental goods, whether otherwise legally enforceable or not, may have the effect of limiting the number of persons carrying on business as suppliers of dental goods, or of securing that dental goods are sold by retail at prices not less than those indicated by the manufacturers or importers thereof."

It is to be an offence to induce someone to deny supplies to a customer on the ground that the customer has sold goods below the price fixed by the manufacturer or importer, but the right of an individual to fix and enforce retail prices for goods which he manufactures or imports is to be untouched. Contravention of the order would not constitute a criminal offence, but a civil action could be brought, and it would be open to the Crown to seek an injunction to prevent or restrain action held to contravene the terms of the order. The approval of both Houses of Parliament is required before a final order can be made by the two Ministers. The final order would come into effect twenty-eight days after it had been made.

Liberal members, in preparation for the appearance of the draft order, tabled the following motion:—

"This House is of opinion that the elimination of price competition which now obtains over a greater part of trade and industry is not consistent with the need for maximum efficiency and economy in production and distribution, and that such measures as exclusive dealing and collective boycott are contrary to the public interest; and it therefore welcomes the decision of the Board Trade to give effect to the recommendations of the Monopolies and Restrictive Practices Commission in their report on the supply of dental goods, but, in view of the fact that practices similar to those condemned by the commission are operative in many other industries, urges his Majesty's Government to introduce general legislation making such practices unlawful."

TOPICAL REFLECTIONS

Photographic Sales

Your issue of March 17 is a welcome resumption of a pre-war type of publication which appeared at short intervals. By combining scientific articles with business information on photographic sales (pp. 345-60) you revive interest in a trade that retail chemists have handled with success for many years. On first glancing at the sixteen pages mentioned I had a momentary doubt as to the stocks of apparatus and materials available for the coming summer. Happily your editorial comment on pp. 337-38 includes the suggestion that supplies of both kinds may be adequate. Another of your remarks reinforces advice that I have ventured to give in this section -that owners of pharmacies should not put too many eggs into the National Health Service basket. The excellent accounts of the development of photography as a popular hobby, with as much or as little of scientific background as amateurs may desire, carry the inference that in every pharmaey where photographic goods are stocked there should be at least one salesman well versed in the science and practice of exposure, developing and printing. Many years ago a friend, a pharmaceutical chemist in business, began to stock a selection of what he thought was saleable in that department; but having no experience of handling films and plates in the dark room he had to fall back on the phrase "I think you will find" when advising customers. A salesman should always be, so to speak, one lesson or more ahead of those whom he serves—a point brought out by Mr. A. F. Attwell (p. 360).

A Notable Centenary

The centenary of Owens College, Manchester, celebrated during this month, must not pass without a brief note. In 1846 John Owens bequeathed approximately £100,000 for "providing or aiding the means of instructing young persons in such branches of learning and science as are taught in English Universities," with the stipulation that no declaration of religious belief was to be demanded from either teachers or students. Five years later the College was opened in a house that had been the home of Richard Cobden of Corn Law fame. A further fund was raised in 1868; the building then begun in Oxford Road has developed into the headquarters of the Victoria University of Manchester. For some years the College,

which obtained a charter in 1874, was grouped with colleges in Liverpool and Leeds in a federal university; but in 1903 it was separated and the Victoria University came into being. The first teacher of chemistry when the College was opened was Sir Edward Frankland, and he was followed by Sir Henry Roscoe, who occupied the chair from 1857 to 1887. Teaching in pharmaceutical subjects has been directed successively (and successfully) by Mr. William Kirkby, Mr. James Grier and Professor Harry Brindle. Mr. Kirkby was appointed Lecturer in Pharmacy in 1890, and afterwards added pharmacognosy to his original subject. Mr. Grier was appointed a Lecturer in 1896. In each of these cases the honorary degree of Master of Science was conferred by the University. The papers contributed to the British Pharmaceutical Conference by both these distinguished pharmacists will undoubtedly be remembered by many who read this paragraph.

Daguerre

As one old enough to have known people of a former generation who had experience of daguerreotypes, I may perhaps be allowed to add a few sentences to the references to L. J. M. Daguerre printed on pp. 348 and 353. The less knowledgeable of the Victorians used to speak of " gerotypes," with the accent on the first syllable. In the French intellect at its best there is a clear-cut brilliance not often found among us of this more northerly latitude. But brilliance does not obviate the need for concentration. Daguerre's first pictures were obtained by a process involving the use of bitumen dissolved in oil of lavender. He worked at this method for two years before the fortunate accident occurred which rendered the bitumen process obsolete. It is of interest to recall that his later method, as published in 1839, included fixation in a solution of sodium hyposulphite. One of the great scientists of the nineteenth century-Pasteur, I believe-remarked that discoveries in science were most likely to be made by prepared minds. So it was in Daguerre's case.

Correction

A word is missing from the first line of p. 325, column 2. The sentence should end, "at about four per million prescriptions."

Xrayser

NEW COMPANIES

McConnell & Brett, Ltd. (P.C.).—Capital £100. To carry on the business of wholesale, manufacturing, or retail chemists and druggists, etc. John E. Crowe, M.P.S., director. R.O.: 880 Grimesthorpe Road, Sheffield, 4.

GOLDHAWK PHARMACY, LTD. (P.C.).—Capital £100. To carry on the business of wholesale or retail, manufacturing, pharmaceutical and general chemists, etc. Roman A. Cieslawski and Kazimierz Blumhoff, M.P.S., directors. R.O.: 128 Goldhawk Road, London, W.12.

J. M. J. MINTON, LTD. (P.C.).—Capital £3,000. To carry on the business of wholesale and retail chemists and druggists, etc. Henry C. Minton, M.P.S., and Charles H. Warbey, directors. R.O.: 7 Kilburn Bridge, Kilburn High Road, London, N.W.6.

Charles Hare (Chemist), Ltd. (P.C.).—Capital £1,000. To enter into an agreement with May Hare, and to carry on the business of wholesale or retail chemists, druggists, opticians and dealers in photographic supplies, etc. May Hare, Frances Hare and Charles Hare, M.P.S., directors. R.O.: 36 Liverpool Road, Birkdale, Southport, Lancs.

Company News

ALBRIGHT & WILSON, LTD.—Mr. John G. Clarke, general works manager, has been appointed to the board.

Chas. Pfizer & Co., Inc.—Profits of the company for 1950 were \$9,940,521, equal to \$6.60 per share of common stock, against \$7,845,290 or \$5.18 per share in 1949.

SMITH & NEPHEW ASSOCIATED Co., LTD.—The directors recommend a dividend on the ordinary shares of 25 per cent. for the year ended December 31, 1950, against 18\(^3_4\) per cent. in the previous year. Net profit for 1950 amounted to \(^2_{124,747}\) (after providing \(^2_{137,273}\) for taxation), as against \(^2_{106,286}\) (taxation \(^2_{107,987}\)) for 1949.

Monsanto Chemicals, Ltd.—Consolidated net profit for the year to December 31, 1950, after taxation, etc., amounts to £607,536 (£318,085), of which £571,405 (£296,384) is attributable to the Monsanto group. A final dividend on the ordinary stock is recommended of 40 per cent.

£198,000 (30 per cent., £148,500) making a total ordinary dividend for the year of 55 per cent., £272,250 (45 per cent., £222,750); balance carried forward, £756,982 (£487,992). The directors announce that Treasury consent has been granted to the issue of 7,200,000 ordinary shares of 5s. each (being two shares for every 5s. of ordinary stock in issue) credited as fully paid out of share premium account; and 1,500,000 cumulative redeemable second preference shares of £1 each for cash, subject to the terms of the issue being agreed with the Capital Issues Committee.

BUSINESS CHANGES

PERIHEL, LTD., 17 Edge Street, London, W.8, have appointed Mr. R. G. Parry to be their London area sales manager.

PLYMOUTH CO-OPERATIVE SOCIETY are opening a new pharmacy at 67 Mutley Plain, Plymouth, on April 2.

Leslies (Chemists), Ltd., have acquired the business of William Bray, 222 Paisley Road West, Glasgow, formerly carried on by the late Mr. J. G. Bray, and will continue to trade under the former title.

The Technical Information and Documents Unit (T.I.D.U.), attached to the Board of Trade, is becoming part of the Information Services of the Department of Scientific and Industrial Research on April 1. For the present the Unit will remain at Lacon House, Theobalds Road, London, W.C.1.

Mr. F. F. Marchbank, who has retired from the Ministry of Health, where he has

been, for over ten years, principal in charge of the administration pharm aceutical affairs, as well as secretary since its inception to the P h a r m aceutical Standing Advisory Committee and joint secretary to the joint committees on (a) the definition of drugs, and (b) on pres-



cribing on form E.C.10, will be available from March 27 as consultant on administrative pharmaceutical problems (import licences, purchase tax. etc.).

THE WEEK IN PARLIAMENT

By a Member of the Press Gallery, House of Commons

LIEUTENANT-COMMANDER G. I. C. HUTCHISON asked the Secretary for Scotland on March 13 whether his attention had been drawn to the remarks of the Comptroller and Auditor General in his Report on the Accounts of the National Health Service in Scotland for 1949-50. What steps did he intend to take to improve and speedup the pricing of prescriptions?

Miss M. C. Herbison (Joint Under Secretary): Yes. Under the arrangements made with representatives of the Scottish chemists in November 1950, over 80 per cent. of the chemists affected are receiving a final settlement on a broad basis for the The reperiod up to the end of 1950. maining chemists have undertaken to help in the clearance of arrears by pricing certain of their own prescriptions. For the future, it is hoped that the actuarial investigations to which the Report refers will provide a satisfactory method of ensuring prompt pricing by abbreviated methods within the capacity of the pricing bureau. Meanwhile an interim arrangement of this nature is in operation for prescriptions dispensed since the beginning of this year.

Pharmacists' Earnings

SIR HUGH LUCAS-TOOTH asked the Minister of Health on March 15 "if he will consider the appointment of a committee to inquire into the average earnings of pharmacists within the health service." MR. H. A. MARQUAND (Minister of Health) replied: No. The remuneration of chemists is under review by the appropriate Whitley Council and I do not think that the appointment of a separate committee at the present juncture would serve any useful purpose.

Cost of N.H.S.

MR. J. LANGFORD-HOLT asked the Minister of Health on March 15 what schemes he had under consideration with a view to reducing the cost of the health service, and MR. H. A. MARQUAND replied that he had that matter under constant review, but had no particular statement to make on it at present.

MR. LANGFORD-HOLT: Would the Minister say why, a year ago, after having taken power to do so, the Government did not proceed, after a Cabinet decision, with the prescription charge? Is he now considering plans that will effect economies without affecting the principle of the

National Health Service? MR. MARQUAND: Many changes have been made, such as reductions in dentists' and opticians' fees, and the cessation of payment of travelling expenses to patients.

Aureomycin Supplies

SIR THOMAS MOORE asked the Minister of Health on March 15 whether he was aware that there was a great shortage of aureomycin in Britain, and what steps he was taking to make good the deficiency. Mr. H. A. Marquand replied that a recent temporary shortage has now been overcome. Deliveries of aureomycin in capsule form from the British factory were adequate to meet present needs. Replying to a further question he said he was assured that the drug was readily available. There had been a delay due to initial technical trouble at the South Wales factory, but that had now been remedied.

Dental Industry

MR. E. H. C. LEATHER asked the Minister of Health on March 15 what action he proposed to take regarding the Monopolies Commission Report on the Dental Industry. MR. H. A. MARQUAND replied that he hoped to lay before the House within the next few days an Order under Section 10 of the Monopolies Act (see p. 364). He hoped that elimination of the practices that "at present restrict competition in the dental trade" would result in a reduction of prices.

Proprietary Medicines under N.H.S.

Mr. G. Cooper asked the Minister of Health on March 15 what steps were being taken to encourage medical practitioners and hospitals to use equivalent remedies laid down by his Department in preference to proprietary medicines, and what was the estimated value of proprietary remedies still being prescribed under the health service. Mr. H. A. MARQUAND replied that all doctors had been asked to prescribe in accordance with the recommendations of the Joint Committee on Pre-scribing. He was in consultation with the British Medical Association on the question of what further information or advice would be helpful to doctors. The information requested in the second part of the question was not available.

Mr. Cooper: "Since the Minister will be aware that many of these proprietary

medicines have little or no medicinal value, does he not think he should go further than he has and eliminate the high cost of proprietary medicines by forbidding their use in the Health Service?"

Mr. Marquand: There is no intention of forbidding it. Professional opinion is favourable to the use of the types of prescription laid down in the British formulary.

Cortisone Supply

WING-COMMANDER E. E. BULLUS asked the Minister of Health on March 15 if he was satisfied with the recorded success in the use of cortisone, and if he would sponsor its more widespread use in Britain. Mr. H. A. Marquand: The use of this scarce drug is under investigation. Its wider use must depend on greater knowledge of its effects and on the availability of supplies. I hope shortly to provide a little more for use in hospitals.

Later the Minister added that he understood the Medical Research Council was still continuing that research and advised that uncontrolled use at present was not desirable in view of the risk of untoward

effects.

DEATHS

CALVERT.—On March 13, at 11 Manor Park Parade, London, S.E.13, Mr. Charles Latimer Calvert, M.P.S., aged sixty-two.

COOK.—On March 10, Mr. Robert Cook, M.P.S., 16 Drumlanrig Street, Thornhill, Dumfries, aged eighty-two.

French.—On March 7, Mr. William Harry French, M.P.S., 182 Radcliffe Road, West Bridgford, Nottingham, aged seventy.

FLEMMING.—Suddenly, on March Mr. T. H. Flemming, Ph.C., 156 Newgate Street, Newcastle-on-Tyne 1, aged seventyseven. Mr. Flemming served his apprenticeship with Stiles & Son, Doncaster, qualified as a chemist and druggist in 1898 and passed the "Major" examination in the following July. Shortly afterwards he went to Newcastle, opening a business in Newgate Street which he conducted until his death. Mr. Flemming was president of the former Newcastle and District Chemists' Association, 1919-20, later took an active part in the dissolution of the Association upon the formation of the Newcastle Branch of the Pharmaceutical Society, and remained on the Branch's executive committee for many years. He took an active interest in National Health Insurance from its inception, and was a member of the local Insurance Committee and of the North-east Joint Pricing Committee. Later he represented chemists on the local Executive Council under the National Health Service. He was local secretary to the retail section of the Proprietary Articles Trade Association, was the first chairman of the Newcastle branch of the National Pharmaceutical Union, and was an active member of the Photographic Dealers' Association. He took a leading part in the work of St. Andrew's Church, Newgate Street, and had been a member of the local Rotary Club since

1929. It was while sitting down to lunch at the Club that he collapsed and died.

GROVES.—On March 17, suddenly shortly after taking part in a motor car race at Newtownards, co. Down, Mr. William Byres Gibbs Groves (managing director of R. J. Groves & Son, Ltd., wholesalt chemists, Belfast and Dublin). A son of the late Mr. R. J. Groves, the founder of the company, he was a well-known member of the trade in Ireland and a leading member of the Ulster Chemists' Golfing Society. As a motorist Mr. Groves took part in many races and trials. Formerly a resident at Rathmines, Dublin, he moved several years ago to Bangor, co. Down.

HARGREAVES.—At his home, 39 Lisle-holme Crescent, Liverpool, 12, on February 24, suddenly, Mr. Frederic Hargreaves, M.P.S., aged forty-eight.

HARRIS.—In his office in Montreal, Canada, on February 3, suddenly, Mr. J. Albert Harris (president of J. A. Harris. Ltd., Montreal, manufacturing druggists). aged fifty-six.

McNinch.—At 25 Robsland Avenue. Ayr, on March 7, Mr. Robert Wilson Mc-Ninch, M.P.S. Mr. McNinch qualified in 1916.

STAPLES. — At 69 John Street, Bridlington, Yorks, on March 10, Mrs. Mabel Alice Staples, wife of Mr. J. W. Staples (managing director of J. W. Staples, Ltd., Bridlington).

Taylor.—At Motherwell, on March 16, Mr. Dugald Taylor, 82 Brandon Street, Motherwell. Mr. Taylor qualified as a chemist and druggist in 1888.

WILKINSON.—Recently, Mr. John George Wilkinson, M.P.S., 37 Sutton Road, Walsall. Mr. Wilkinson qualified in 1924.

PERSONALITIES

Mr. T. G. Anwyl, M.P.S., Wellington Road, Rhyl (a member of Rhyl urban council and chairman of Rhyl Liberal Party), has been appointed a magistrate for Flintshire.

MR. TURNER BELL, M.P.S., the new chairman of the South Shields Pharmaceu-



tical Association, qualified in 1925. He bought a business in Woodbine Street, South Shields, in 1932, and four years later took over a pharmacy in Fowler Street, relinquishing it in 1948, however, to devote more time to developing Domitor, Ltd., a proprietary company of which he is managing

director. He is secretary of the local Pharmaceutical Committee and an observer member co-opted to the British Medical Guild. He was appointed secretary of the Association on its formation two years ago. "Counter trade," he says, "will always play an important part in earning the chemist his living." Pharmacists are "far oo humble and long-suffering," and n face of the National Health Service renuneration they forget that "the more professional a profession is the more inistent its members are on adequate fees." There is no use in "starving genteelly," he

MISS AGNES LOTHIAN, Ph.C. (author of n article entitled "Drug Jars and Their nscriptions," C. & D. Annual Special ssue, 1950, and librarian of the Pharmaeutical Society) has contributed an illusrated article on the armorial London Delft of the Worshipful Society of Apothearies to the "Connoisseur," March 1951.

THE ROYAL SOCIETY has elected into ellowship Brigadier J. S. K. Boyd, D.B.E., director of the Wellcome Laboraories of Tropical Medicine, London (for nportant contributions to bacteriology nd immunology, including researches on ysentery, typhus fever and tetanus), and r. H. R. Ing, reader in pharmacological hemistry, Oxford University (for his inestigations on the chemistry of drugs and ne chemical aspects of drug action),

COMING EVENTS

Items for inclusion under this heading should be sent in time to reach the Editor not later than first post on Wednesday of the week of insertion.

Wednesday, March 28

SCOTTISH DEPARTMENT, PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, 36 York Place, Edinburgh, at 7.30 p.m. Miss L. D. Brown and Mr. D. Jack (Royal Technical College, Glasgow) on "Curare and Related Substances" (Illustrated).

GLASGOW AND SOUTH-WESTERN SCOTTISH BRANCH, PHARMAGEUTICAL SOCIETY, 220 St. Vincent Street, Glasgow, at 7,30 p.m. Discussion on the Society's draft supplemental charter and by-laws, Appointment of propositions of the society of the ment of representatives.

Thursday, March 29

Association of Glasgow Pharmacists, Central Hall, Bath Street, Glasgow, at 7.45 p.m. Mr. H. E. Chapman (secretary, Proprietary Articles Trade Association) on "The value of the P.A.T.A. to Pharmacists and the Present Threat to its Printed Present Threat T

DARTFORD BRANCH, PHARMACEUTICAL SOCIETY, Well-come Club, High Street, Dartford, at 8 p.m. Dr. H. C. Calvey (physician to the Chest Clinic, the West Hill Hospital, Dartford), on "Tuberculosis and its Treatment."

DUNDEE AND EAST SCOTTISH BRANCH, PHARMACEUTI-CAL SOCIETY, Mathers Hotel, Whitehall Place, Dundee, at 7.30 p.m. Annual meeting. Dr. A. A. Kirkland on "Notes on the Modern Treatment of Rheumatism."

EASTBOURNE BRANCH, PHARMACEUTICAL SOCIETY, Towner Art Gallery, Eastbourne, at 7.30 p.m. Mr. A. L. Bacharach on "The Production and Use of Laboratory Animals."

Junior Branch, Manchester Pharmaceutical Association, Apollo Ballroom, Ardwick Green, Manchester, at 7.30 p.m. Easter dance.

THAMES VALLEY PHARMACISTS ASSOCIATION and Branch, Kingston Hotel, Kingston, at 7.45 p.m. Dr. H. E. Archer on "The Detection of Poisons in Pathological Practice."

WESTERN PHARMACISTS' ASSOCIATION, Connaught Rooms, Great Queen Street, London, W.C.2, at 6 for 6.30 p.m. Annual dinner and dance.

Friday, March 30

Guild of Public Pharmacists, 17 Bloomsbury Square, London, W.C.1, at 6 p.m. Council meeting.

HULL CHEMISTS ASSOCIATION and BRANCH, Imperial Hotel, Hull, at 8 p.m. Mr. D. E. Seymour (research manager, Herts Pharmaceuticals, Ltd.) on "The Cortisone Problem."

Saturday, March 31

Guild of Public Pharmacists, 17 Bloomsbury Square, London, W.C.1, at 9.30 a.m. Council meeting, 2.30 p.m. Branch delegates meeting.

STUDENTS' UNION, SCHOOL OF PHARMACY, UNI-VERSITY OF LONDON, is holding its sessional dance at the Victoria Hall, Bloomsbury Square, London, W.C.1, on April 18, Tickets 5s. each.

BRITISH PHARMACEUTICAL STUDENTS' ASSOCIATION is holding its annual conference at 17 Bloomsbury Square, London, W.C.1, April 2-6.

Union of Shop, Distributive and Allied Workers is holding its fifth annual delegate meeting in the Empress Ballroom, Winter Gardens, Blackpool, March 25-27.

TRADE NOTES

For Oral Use. - The British Drug Houses, Ltd., Graham Street, City Road, London, N.1, announce that pregnenolone, B.D.H., is now available in bottles of twenty tablets for oral administration.

Air Transport to Toronto Fair.—Trans-Canada Air Lines, 27 Pall Mall, London, S.W.1, are flying a "Trade Fair special" aircraft direct from London and Prestwick to Toronto on May 21.



Show Material. -Illustrated alongside is one of the new showcards issued by Cuxson, Gerrard & Co., Ltd., Oldbury, Birmingham, The Adaptoplast. size of the card is $6\frac{1}{2}$ x 4 in.

Book for Mothers. — Alfred Fennings. Horsham, Sussex, have distributed to chemists a supply of " Every Mother's Book " giving information to mothers on the

care and upbringing of children.

Comb Display Offer. — On another page of this issue appears an announcement

in colour of the new series of Kirtessa shell combs now being marketed by Macdonald & Son, Ltd., Hope Mills, Pollard Street, Manchester, 4.

New Cosmetic Products.—Crystal Products, Ltd., Hook Rise, Kingston Bypass, Surbiton, are now marketing a cream mascara (black and brown) in tube with brush. Henry C. Miner, Ltd., have added to their lacquer range three pearl shades: Pearl (silver or nacre), pearl pink (palest pink), and pearl rose (a deep mauvish pink).

Telephone Cable Trouble.—Carnegie Chemicals (Welwyn), Ltd., Welwyn Garden City, apologise for inconvenience caused to friends and customers who tried to telephone them during the past week. Unfortunately, owing to underground cable trouble, the whole of the company's switchboard was out of order. The lines have now been restored.

Sales to South Africa .- Mr. S. M. L. Hatrick (Stuart M. L. Hatrick (Pty.), Ltd., Johannesburg, South Africa), is visiting London in May and invites communications from manufacturers of pharmaceutical and hospital supplies interested in expanding their business in South Africa. Letters should be sent to him c/o H. Chaplin & Co., 101 Leadenhall Street, London, E.C.3.

Gift-time Wrappings .- P. P. Payne & Sons, Ltd., Bush House, Aldwych, London, W.C.2, are issuing wrapping materials for use by retailers offering goods for Fathers' Day (June 17) and for "shower parties" (in which friends of a bride-tobe bring presents for the room in the house at which one of a series of parties named after the rooms is given).

Oil for Egg Preservation.—A method of egg preservation by oil dipping is now being applied in this country. Tests carried out with a special grade of oil manufactured by Shell Mex and B.P., Ltd., Shell Mex House, Strand, London, W.C.2, have shown that new laid eggs treated with the oil before cold storage maintain their taste and quality for as long as seven months.

"Quosh Quins" at Olympia. — "The Quosh Quins" are on parade at Olympia during the "Daily Mail" Ideal Home exhibition in order to advertise Quosh, the recently introduced soft drink of H. W. Carter & Co., Ltd., makers of vitamin fruit syrups, the Royal Forest Factory, Coleford, Glos. Outside the Exhibition sandwichmen dressed as mammoth bottles of fruit squash advertised the product.

Slug-killer Powder.-Supplies are now available of Metaldehyde powder (for preparation as a slug-killer) from H. R. Napp, Ltd., 3 Clement's Inn, London, W.C.1. The product is issued in screw-capped metal containers holding sufficient to make, when mixed with an "attractor," 3 lb. of bait. In use, one part in bulk of metaldehyde powder is mixed with thirty parts of grass-cuttings, tea-leaves, bran, etc..

Bottle Caps.—R. V. Wagner, 33 Brooke Street, London, E.C.1, can supply in all sizes and colours the Wagner "automatic" bottle caps first introduced to the market thirty-one years ago and now regularly exported to all parts of the world. The caps are supplied in the dry state and can be kept for years without deteriorating. In view of current demands the makers urge chemists to place orders in advance of requirements.

Synthetic Perfume Materials.—Advantages of lower cost, greater uniformity of quality, and a better supply position are claimed by the Arthol Manufacturing Co., Ltd., Sealand Road, Chester, for their synthetic perfumery materials, which include bergamot-S, cananga-S, ylang S1006, ylang Arthol and ylangone. The materials may be used either to replace or in conjunction with the corresponding natural oils. Samples and quotations will be sent to any bona-fide inquirer.

Talking Exhibits. — Novel ways and means of attracting the public's attention to exhibition stands by synchronised sound and light effects have been devised by Recorded Sound, Ltd., 6A Whitehorse Street, London, W.I. One of many examples capable of being made to individual requirements is a panel of photographs or diagrams illustrating stages in the manufacture of a product, with each stage automatically illuminated in turn and a voice (of normal speaking volume) describing the process.

Display Stand.—Illustrated in this paragraph is a display stand for Secto DDT insecticide powder and liquid, manufac-



tured by Secto Co., Ltd., Shaw Street, Blackburn. The show-stand is being sent with all carriage-paid orders when requested. Prices are at present "almost unaltered," but the manufacturers advise early placing of orders owing to sharp increases in raw material prices.

Tuberculin Jelly.—Burroughs Wellcome & Co., 183 Euston Road, London, N.W.1, announce the introduction of Wellcome brand tuberculin diagnostic jelly for percutaneous tuberculin testing in infants and children under twelve years of age. The product consists of old tuberculin (double the potency of the international standard tuberculin) with 5 per cent. of jelly base; it is issued in collapsible tubes containing sufficient for about twenty tests. A control jelly, tuberculin-free but otherwise identical in composition with the diagnostic jelly, is also available. The two products are distinctively labelled and capped to minimise the possibility of confusion.

PRICE CHANGES

JOHN BELL, HILLS & LUCAS, LTD., Oxford Works, Worsley Bridge Road, London, S.E.26, tabulate in this issue the current prices of their specialities. — The CROOKES LABORATORIES, LTD., Park Royal, London, N.W.10, increased the retail prices for Crookes Bromoform Co. on March 12. -THE BRITISH DRUG HOUSES, LTD., Graham Street, City Road, London, N.1, announce new prices, in operation from March 12, for Anacobin (ampoules of 10 and 20 microgm., in boxes of three and twenty-five) — The Oatine Co. (Opera Omnia, Ltd.), 44 Kennington Lane, London, S.E. 11, gave effect on March 1 to new prices for Oatine beauty products, Royal Court Tintona hair dyes and Surama medical cigarettes.—OSBORNE, BAUER AND CHEESEMAN, LTD. (agent: Sangers, Ltd., 258 Euston Road, London, N.W.1), give on another page new prices in operation since March 1 for Glymiel jelly.—Poly-PHARMA LABORATORIES, LTD., Mount Pleasant, Alperton, Wembley, Middlesex, announce that Synergon has been exempted from purchase tax from March 1.-PRO-MEDICO PRODUCTS, LTD., 21-22 Turle Road, London, N.4, announce price increases for Promol moth rings, junior and standard sizes. — Sponcel, Ltd., Woldham Road, Bromley, Kent, increased on March 12 the prices of Spontex toilet and household sponges (except household sponges 45H and 28H).—WHITAKER & CO. (KENDAL), Ltd., Kendal, give details on another page of new prices for Luton straw hat dyes which are again available.—Ortho Phar-MACEUTICAL, LTD., Lane End, High Wycombe, Bucks, announce price increases in Ortho Gynol set, Ortho Creme set and Ortho coil-spring vaginal diaphragm.

PROPRIETARY ARTICLES TRADE ASSOCIATION

Alterations to Protected List (Part 1). Johnson & Johnson (Great Britain), Ltd., Prices in Ireland: Johnson's baby

lotion, 16s. doz., 2s.

Phensic, Ltd. (agents, Veno Drug Co., Ltd., St. Helens), Prices in Channel Islands: Phensic tablets (box containing twenty packets), 46s. 6d. doz., retail price 3d. packet. Phensic tablets, 12s. 9d. doz., 1s. 4d.; 3os. 6d. doz., 3s. 2d. Minimum quantities: Combined order, £3 Veno and Phensic products. Terms: Qualified dealers: 2½ per cent. monthly account and 10 per cent. display allowance; unqualified dealers: 21/2 per cent. monthly account and 5 per cent, display allowance.

Phosferine (Ashton & Parsons), Ltd. (agents, Beechams Pills, Ltd.). Prices in Channel Islands: Phosferine (liquid and tablets): 12s. 3d. doz., 1s. 4d.; 29s. 9d. doz., 3s. 2d. Ashton & Parsons' infants powders, 12s. 3d. doz., 1s. 4d. Minimum quantities: (a) Combined order, Beecham, Phyllosan and Phosferine lines, £5 value. (b) Separate orders for Beecham, Phyllosan and Phosferine lines, £2 value. Terms: Qualified dealers: 21 per cent. monthly account and 10 per cent. display allowance; unqualified dealers: 21/2 per cent, monthly account and five per cent. display allowance.

Potter & Clark, Ltd., Increased prices since March 1: Potter's asthma remedy, 20s. doz., tax 33¹/₃ per cent., i.r.p., 2s. 9d. Potter's asthma cigarettes, 20s. doz., tax

331 per cent., i.r.p. 2s. 9d.

Roche Products, Ltd., Correction: (addition): Redoxon vitamin C tablets, 500 mgm., 20's, 54s. doz., 6s. 9d.; 100's, 216s. doz., r.p. 27s.; 500's, 96os. doz.,

120s, (all exempt from tax).

Southall Bros. & Barclay, Ltd., Southall's compound malt and oil: 1-lb., 28s. 6d. doz., 3s. 4½d.; 2-lb., 53s. doz.,

6s. 3d. (both exempt from tax).

Veno Drug Co., Ltd., Prices in Channel Islands: Dr. Cassells tablets, 12s. 9d. doz., 1s. 4d.; 3os. 6d. doz., 3s. 2d. Veno's Lightning cough mixture: 12s. 9d. doz., 1s. 4d.; 21s. doz., 2s. 3d. Germolene: 12s. 9d. doz., 1s. 4d.; 30s. 6d., 3s. 2d. Germoloids: 14s. 10d. doz., 1s. 7d. Germoplast, 7s. doz., 9d.; 14s. doz., 1s. 6d. Minimum quantity: Combined order, £3 Veno and Phensic products. Terms: Qualified dealers: 2½ per cent. monthly account and 10 per cent. display allowance; unqualified dealers: 21 per cent.

monthly account and 5 per cent. display allowance.

Alterations to Protected List (Part 2). Bourjois, Ltd., Face powder, 6330, 13s. 3d. doz., tax 100 per cent., inclusive retail price 2s. 9d. Miniature perfume 2902, 13s. 3d. doz., tax 100 per cent., i.r.p. 2s. 9d. Perfume 1296, 36s. doz., tax 100 per cent., i.r.p. 7s. 6d. Talcum powder 6378, 15s. 8d. doz., tax 100 per cent., i.r.p. 3s. 3d. Hair cream 9044, 14s. doz., tax 100 per cent., i.r.p. 2s. 11d. Liquid brilliantine 6261, 18s. doz., tax 100 per cent., i.r.p. 3s. 9d. Vanishing cream (tube) 9060, 8s. doz., tax 100 per cent., i.r.p. 1s. 8d. Vanishing cream 6270, 10s. 10d. doz., tax 100 per cent., i.r.p. 2s. 3d. Solid brilliantine 9083, 14s. doz., tax 100 per cent., i.r.p. 2s. 11d. Bourjois rouge 117, 6s. 3d. doz., tax 100 per cent., i.r.p. 1s. 3d. Ashes of Roses perfume 41, 10s. 10d. doz., tax 100 per cent., i.r.p. 2s. 3d.

Cooper, McDougall & Robertson, Ltd. Cooper's household fly-spray, 22s. doz. 2s. 9d. 34s. doz., 4s. 3d. (both exempt from

tax).

County Perfumery Co., Ltd., Brylcreem, A44, tubs, 7s. 3d. doz., tax 100 per cent., i.r.p. 18. 5d.; A47, 118. 5d. doz. tax 100 per cent., i.r.p. 28. 3d.; A48 208. 4d. doz., tax 100 per cent., i.r.p. 48 Jar, A46, 11s. 5d. doz., tax 100 per cent. i.r.p. 2s. 3d.; tube, A29, 11s, 5d, doz., tax 100 per cent., i.r.p. 2s. 3d.

Crystal Products Co., Ltd., Outdoo Girl preparations. Panchromatic foundation (new product), 7s. 4d. doz., tax 100 per cent., i.r.p. 1s. 6d. Deodorant cream Iss. 6d. doz., tax 33¹/₃ per cent., i.r.p. 1s. 9d Iglodine Co., Ltd., Iglodine shaving soal

(in container) 15s. doz., tax 333 per cent.

i.r.p. 2s.

Macleans, Ltd., Macleans peroxide solic dentifrice, 6s. doz., tax 331 per cent i.r.p. 10d.

Mennen Preparations (agents, Fassett & Johnson, Ltd.), Mennen talcum for me (new product), 12s. doz., tax 100 per cent i.r.p. 2s. 6d.

Morning Pride Preparations (agents Fassett & Johnson, Ltd.), Morning Prid lather shaving cream (new product), tube 13s. doz., tax 33\frac{1}{3} per cent., i.r.p. 2s.

Sta-Blond Laboratories, Ltd. (distribu tors, Roberts Anglo-American Sales Co Ltd.), Staset Magicurl (new product 3s. 8d. doz., tax 100 per cent., i.r.p. 9d.

FOOD PRESERVATIVES RECOMMENDATIONS

A JOINT committee representing the Society of Public Analysts and the Society of Chemical Industry, Food Group, have made recommendations to the Ministers of Food and Health for the bringing up to date of Public Health (Preservatives in Foods) Regulations (S.R. & O., 1925, No. 775) as amended. They recommend, interdia:—That a list of the only colours permitted to be used in foods should be given and revised frequently and the various compounds of benzoic acid and of sulphur dioxide which can be permitted for use in preservatives listed for convenient reference by users.

The Committee recommends a wider definition of the term "preservative," and desires the addition of substances to foods for other purposes, such as anti-oxidants, prevention of staling, anti-mould agents, stabilisers, etc., to be brought under control. They recommend that a policy should be formulated concerning these usages and a list of substances permitted for these purposes given. The following

substances, they say, appear to be added to food in various countries:—

Anti-oxidants
Tocopherols
Lecithin
Guaiacum resin
Nordihydroguaiaretic
acid (NDGA)
Citric and phosphoric
acids
Propyl gallate
Butylated hydroxy anisole

Emulsifying agents
Glyceryl mono-stearate
and distearate
Glyceryl mono-oleate
and dioleate
Glyceryl mono-laurate
Cetyl palmitate
Pentaeythrityl stearates
Sulphonated Lorol
Polymerised linseed oil

Fatty materials but not emulsifying agents Lanette wax Lanolin Anti-mould agents
Calcium propionate
Sodium diacetate

Prevention of staling Glyceryl stearates Polyoxyethylene stearates Sorbitol stearates

Stabilising agents
Sodium and calcium
pectates
Sodium alginate
Methyl cellulose
Ethyl cellulose
Sodium carboxymethyl
cellulose

Miscellaneous
Diphenyl (orange
preservative)
Methyl naphthyl acetate
(potatoes in clamp)
Thiourea
Certain quinoline
derivatives
Bromacetic ester (milk
preservation)

COUNCIL'S VIEWS ON TECHNOLOGICAL EDUCATION

THE Council of the Pharmaceutical Society has communicated to the Minister of Education its observations on the report of the National Advisory Council on Education for Industry and Commerce on the future development of higher technological education (see C. & D., 1950.II.628). After defining the function of the Society in respect of the training and education of pharmacists, the communication states that considerations other than those of technology enter into the education of pharmacists, though the practice of pharmacy under industrial conditions presents problems similar to those in industry generally. The Society's Council considered that undue weight had been attached to the position of technical colleges and that, in its concern to improve them, the National Advisory Council had made proposals that tended to dissipate available resources and to encourage division in a field where cooperation and a common policy were essential. For example, the proposal for a new type of technological qualification was apparently put forward on the ground that existing comparable qualifications were inadequate, and that "the work of the technical colleges in the field of advanced tech-

nology is so important that it should possess a recognised hallmark of its own."

University Principles

The Society was not aware of any substantial part of the technological field in which existing qualifications were inadequate or qualifications of the existing type inapplicable, and believed that technological education in its higher ranges must develop on university principles and become increasingly conducted within, or in association with, universities (whether or not they were specifically technological universities). At those levels any historical divergence between technology and science was rapidly losing significance. The Society considered that pre-occupation with the channels through which it would be applied should not, in the first instance, influence any policy for higher technological education that was worked out. as pharmacy is concerned, the view taken was that the proposed Royal College of Technologists had nothing to provide that could not be better achieved by other means, and that it would introduce unnecessary complication in the field of higher technological education.

C. & D. RETAIL & DISPENSING PRICE LIST

THE following changes that occurred during February should be noted. The drug index for the month is 210.

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00	oz.	Bismuthi			4	7	U	U
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55	10.	salicylas	2	4	0	8	0	I
32	lb.	Ol. cocois	ī	2	0	4	0	I
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$55\frac{1}{2}$	lb.	Potassii			9	9	•	
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120	lb.	Zingib. Jam.				1		
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The British Pharmacopæia does not lay down any ruling on the coating of tablets and the British Pharmaceutical Codex says that certain tablets "may" be sugar coated. The National Formulary is more precise and states when sugar-coated tab-

lets are to be supplied. In addition to masking the taste of certain drugs, coating may be used for preservative purposes. Uncoated tablets of phenytoin sodium, for example, absorb atmospheric carbon dioxide and become less soluble and less readily absorbed. The makers of hormone tablets point out that greater efficiency is obtained by dissolving under the tongue their oral tablets; some makes are specially shaped to prolong the disintegration.

d. per 84 500 Methyl. thiouracil. 50 mgm. 120 500 210 500 370 500 Pethidine 25 mgm. 4	
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940 500 Succinyl sulphathiazol. 0.5 gm. S.1.R only — 18 Succinyl sulphathiazol. 0.5 gm. S.1.R only — 24	6

INJECTIONS						
Item	$\begin{array}{c c} \operatorname{Cost} \\ \frac{1}{2} \operatorname{doz}. \\ d. \end{array}$	Selling $\frac{1}{2}$ doz. s. d.	Cost doz.	Selling doz.		
Bismuth. oxychlor. B.P. 1 mil Bismuth.	_	_	66	8 3		
oxychlor. B.P. 2 mil Carbachol o.25 mgm.	_	_	72	9 0		
S.1.(5)	24	3 0	_			
Deoxycorton. acet. 5 mgm.	92 (for 3)	11 6 (for 3)	344	43 0		
Deoxycorton. acet.10 mgm.	164 (for 3)	20 6 (for 3)	-	_		
Pethidin. hydrochlor. B.P. 50 mgm. S.1.D.D. Pethidin. hydrochlor.	_	_	46	5 9		
B.P. 100mgm. S. 1.D.D.		_	66	8 3		

NORTHERN IRELAND HEALTH SERVICES

PHARMACEUTICAL services continued to expand throughout the year 1949-50 but the contractors were able to deal with all requirements, according to the Northern Ireland General Health Services Board's second annual report. During the period the number of contractors increased from 535 to 554 and their premises from 565 to The number of prescription forms dispensed was 4,334,778 against 2,810,082 in the first nine months of the scheme, an increase of 19.7 per cent. Increased costs resulted from an increase in the number of persons on doctors' lists; a rise in the cost of drugs; an increase in the number of "patent" and proprietary medicines ordered by doctors; a tendency among doctors to order large quantities for patients, and liberal use of expensive drugs such as penicillin and the sulpha drugs. The Board made appeals to doctors to exercise restraint in ordering expensive preparations.

They would inform each doctor of the average cost per patient of his prescribing as compared with the average for practitioners in his area, and with the average for Northern Ireland, as soon as figures were available, and they intended to take action where the drugs or appliances ordered appeared to be unreasonably expensive or in excessive quantity. The total payments were £1,233,813, and the average cost per form 69.10d. The average cost per patient on doctors' lists varied

between 17.31d. and 25.98d.

Tests

Only a few tests had been carried out under the drug testing scheme, and the analyst's reports had not been fully considered. It was intended that regular tests would be carried out covering the whole area. Four complaints against chemists were investigated by the Services Committee. In three it was found that contractors were advertising that they provided services under the Act. In the fourth case a chemist had failed to dispense a prescription when requested. A reprimand was given.

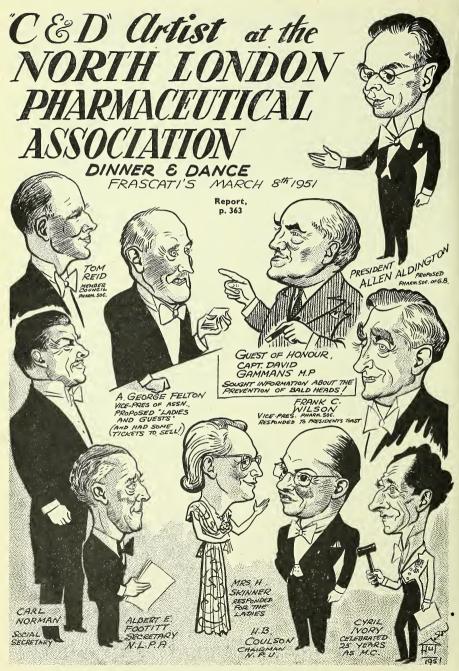
In the Pricing Bureau the tendency was for the output per girl to be reduced owing to a big increase in the number and variety of proprietary and "patent" medicines ordered, a deterioration in the legibility of prescriptions, and the introduction of a system of tax-free dispensing packs

for proprietaries normally subject to purchase tax. That meant that there were two prices payable for the same article dependent on whether or not tax had been paid by the chemist.

Pharmaceutical Services

Presenting a supplementary estimate in the Ulster Parliament, DAME DEHRA PAR-KER (Minister of Health and Local Government) said that £530,000 was required to meet the increased cost of pharmaceutical services. She had assumed in the original estimate that the public would be called upon to pay 1s. for each prescription, which would have reduced the cost by £225,000. Other factors were an increase in the number and average cost of prescriptions, accounting for £200,000, an accelerated clearance of arrears of payments to chemists and the recent influenza epidemic, which had cost £50,000. Minister said she was determined that every possible economy should be exercised but that necessary drugs should not be withheld from patients. Doctors were entitled and required to prescribe the medicines which they considered their patients needed. Where a drug was obtainable, either as an expensive proprietary or a less expensive non-proprietary of equivalent therapeutic value, doctors were expected to prescribe the cheaper form.

The Central Medical Committee of the Northern Ireland General Health Services Board has informed five doctors that Lantigen, Prosol, Hepovite and Neo-Selarom are not considered drugs that may be prescribed under the National Health Service. The accountant said that approximately £41,000 of the extra £50,000 specially requested in the supplementary estimates had gone in payment of prescriptions written in January during the height of the influenza epidemic, and that it seemed probable that the number of February prescriptions would also be higher than normal. It was reported that the Local Pharmaceutical Committee had submitted the Londonderry chemists' rota scheme for providing an after-hours service as follows: Weekdays (including halfholiday), 8.30 to 9.30 p.m.; Sundays and public holidays, 11.30 a.m. to 12.30 p.m. and 7 p.m. to 8 p.m. The rota was to be a ten-weekly one with three chemists in attendance each week for nine weeks and two in the other week. The Executive Committee approved the arrangements.





WEST HAM DINNER AND DANCE

THE annual dinner and dance of the West Ham and District Association of Pharmacists was held in London on March 8. About two hundred members and guests attended. The chief guests included Mr. A. A. Meldrum (president of the Pharmaceutical Society), and Mr. Philip Varley (vice-chairman of the National Pharmaceutical Union). After-dinner formalities commenced with a vigorous appeal for the Society's Benevolent Fund by Mr. J. Reed, the Association's oldest member, now in his eighty-first year. The subsequent collection realised £50. Proposing "The Pharmaceutical Society," Mr. R. J. Maxey (vicepresident of the West Ham Association) applauded the good relations that existed in West Ham between chemists and the Pharmaceutical Society's inspectors. Mr. A. A. Meldrum, replying, said that the Society increasingly regarded their inspectors as chemists' friends and confidants.
The time had gone for "prosecution and persecution." Proposing "The National

Pharmaceutical Union," Miss A. J. Mc-BRIDE (chairman, East Metropolitan Branch of the Society) listed the privileges the Union made available to employee pharmacists-of whom she was one, and paid a tribute to the efficiency of its staff. Mr. P. VARLEY replied. DR. S. J. THOMAS, J.P. (chairman, Stratford Division, British Medical Association), proposed "The West Ham and District Association of Pharmacists." Thanking pharmacists for interpreting the new developments in medicine to doctors, he welcomed the passing of dispensing from doctors to chemists. Mr. S. T. Wombwell, replying, assured Dr. Thomas that co-operation with the medical profession would always be the chemist's aim. Mr. Derek C. Evans proposed "The Ladies" and Dr. FLORA M. Hogg, J.P., who replied, thanked chemists for their co-operation. Dancing followed. £15 was raised for the Birdsgrove House Fund.

Top of page: Mr. A. A. Meldrum, Mrs. and Mr. O. C. Wombwell, and Mr. and Mrs. R. J. Maxey. At left: Messrs. J. Reed (left) and S. Clifford Jones (right) with Mr. J. F. McNeal and Mrs. Jones. Below: Mr. P. Varley and Dr. Flora M. Hogg; Dr. S. J. Thomas and Miss A. J. P. McBride





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VOL. CLV MARCH 24, 1951 No. 3709

British Standards and Their Future

A COMMITTEE appointed by the President of the Board of Trade to look into the organisation and constitution of the British Standards Institution, published its findings recently in a report available from H.M. Stationery Office. The committee finds that the Institution is well adapted for carrying out its present and the expected increased work (an increase of up to double the present expenditure within the next five years is foreseen), and recommends that there should be no change in the present control, with its representation of manufacturers, users, professional organisations, and Government departments. Subscriptions for members should, however, be increased, and the Government should contribute a sum equal to members' subscriptions—a total of £150,000 annually.

Assuming that the report is implemented by the Government, the Institution will be confirmed in its revised constitution under its Royal Charters of 1929 and 1931, one effect of which was to extend its scope to other industries, including chemicals.

We have no quarrel with the committee's findings, so far as they concern the actual machinery for establishing standards. The report, however, appears to us to eave two important questions still in need of an answer. One is the precise demarcaion of the chemical field to be administered by the Institution. There is a much older, more specialised and more appropriate body for dealing with standards for nedicinal products (including chemicals within that category), namely the General Medical Council, and on one or two occasions in the past the B.S.I has not been guiltless of what we should regard as trespass. Any further encroachment should be avoided, as weakening the authority of both bodies,

The second question concerns the method of setting the machinery in motion. present, we believe, it is left largely to industrial interests to apply to the Institution for standards to be formulated for a product, etc. There may be—and indeed are—matters in which the public interest demands the establishment of a standard irrespective of whether or not need for it is felt by the industry concerned. Some authority-not the B.S.I. itself-is needed to shoulder that responsibility and to decide priorities. It may have been outside the present Committee's terms of reference to consider that aspect of the problem. It is, however, within the scope of the President of the Board of Trade, to whom the report is addressed.

Applications of Microchemistry in the Training of Students

WITH the growing need to examine substances available only in traces, microchemistry, on which Mr. G. Ingram contributes an article to this issue (pp. 381-83), is becoming an increasingly important item in the armamentarium of chemists and biochemists. Already it has been used with notable profit in the fields of hormones, vitamins and antibiotics.

Besides being applicable to small quantities of material, the methods of microchemistry are rapid and simple, and they conserve reagents, heating, and bench space. The simplicity of the procedures and apparatus is perhaps surprising. will be shown in later articles, much can be achieved with glass tubing, glass rod, and a little patience. Many of the active principles with which pharmacists are concerned occur in small concentrations, and it seems reasonable, therefore, that pharmaceutical students should have some acquaintance with small-scale techniques. That can come about early in training because the classical group scheme for inorganic qualitative analysis is capable of

being scaled down to microchemical dimensions without losing the fundamental chemistry that is part and parcel of that analytical scheme. The student should be taught to work accurately and fast, and time-consuming operations such as filtration which the student is often obliged to practise to the exclusion of other techniques encourage neither of those aims. In at least one school, microchemical technique has been introduced to pharmacy students early in their studies, and it has been found that small-scale working has a fascination particularly for the more successful students in chemistry. The others are consoled by finding that a well-planned semi-micro analysis is easier than the "normal" procedure.

Light Reading for Patients

What many pharmacists may look for first "Family Doctor," the handsomely produced new monthly publication of the British Medical Association, is the nature of the advertisers' announcements that have come through the ultra-filtration process it was realised the B.M.A. would have to apply. It was likely self-medication was a practice the medical profession would neither encourage nor even countenance. In straining at "patent" medicines, however, its publishers have swallowed a whole larderful of proprietary foods-whether for babies, nursing mothers, invalids, the aged or the public at large. Some of these, it is true, disclaim-perhaps a trifle priggishly-any title to medicinal value, like an ice cream ("they eat it because they like it"). Others boast the backing of the profession ("doctors know the value of quality -so they recommend . . .") and a few come close to being "held out or recommended" as medicines ("the cup of health"; "sleep sweeter").

Risks of hypervitaminosis have evidently been exaggerated in some quarters, for there are full pages for a cod-liver oil and a range of proprietary vitamin preparations. Disinfectants, soaps, first-aid plasters and a face cream need cause no eyebrows to rise, but "self-surgicalisation," to coin a term, is evidently less to be avoided than self-medication. Sun-lamps, supporters for men, and sanitary-protection-worn-internally seek buyers with no sug-

gestion of being acquired or used under medical supervision ("full data... readily furnished on request"; "send c.o.d. (state waist size)"; "test for yourself"; and only an anatomical support for women hints at the preliminary of a prescription.

The chemist is given moderately good publicity, with mention in about one-third the advertisements in which such mention might fairly be expected. If it must be admitted that one announcement states "From sports dealers, outfitters, chemists," that has to be set against the "only from chemists" of another. Bringing in the chemist would no doubt be all to the good, if it did not imply the awful criminality of dealing in all those other proprietaries that have not been accorded the cachet of admission to "Family Doctor."

The purpose of this new, lavishly illustrated and technically superb publication is stated in a foreword to be the benefit of the men, women and children of Britain . . . "to help everyone to lead a healthy and happy life." To secure and hold a mass interest (the first printing is understood to be in the region of 250,000) without pandering to a new race of hypochondriacs is a delicate balancing act—as delicate as to devise a workable and unimpeachable policy towards accepting advertisements—and we are not convinced that in this first number, good as it is, the final formula has been arrived at in either field.

A PHARMACIST'S ANTHOLOGY

My heart has been bothering me, and I saw a doctor and was ordered to rest and to take potassium bromide and digitalis: late hours were forbidden. This treatment succeeded not at all. Then I was given arsenic, potassium iodide, and tincture of colchicum: this treatment succeeded not at all. Then my doctor sen me to a specialist, the master of masters Dr. Potain. He told me there was absolutely nothing wrong with my heart but that I was suffering from the beginning of nicotine poisoning. That impressed me so that I immediately swallowed all mipipes in order not to have them around any longer. Nevertheless, my heart keep pounding just as hard: It's true that I'volly been off tobacco two weeks."—Fron "Maupassant" by Francis Steegmuller,

MICROCHEMICAL ANALYSIS

By Gerald Ingram

1.—Scope. Qualitative Analysis

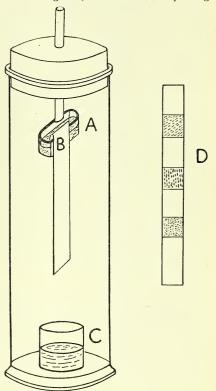
LTHOUGH microchemistry existed more than a century ago in a simple form it is a comparatively modern development. It began an intensified existence some forty years ago with the spectacular achievements of the pioneers Emich, Donau, and Pregl. These workers were largely responsible for introducing methods of elemental analysis of both inorganic and organic materials using milligram quantities. Their efforts showed the potentialities of small-scale methods of analysis so that by now the scope of microchemical technique has been extended to almost all the important fields of analytical chemistry. New techniques have arisen without which many of the important scientific discoveries of today could never have been developed satisfactorily. Today it is possible by means of small-scale methods to isolate, identify, and determine microgm. quantities of a substance.

Advantages of the Methods

Microchemical methods not merely replace the older established macro-methods which many are loth to discard, but have been developed because the present trend of research in the different branches of chemistry is to study the rôle of traces of elements and compounds. The advantages of microchemical methods lie in the economies they make possible in time, reagents, and often valuable sample, and in the adoption of the use of simple and standardised equipment. Because of these advantages microchemical methods are sometimes used even when large quantities of material are available for analysis. Such an application is not always desirable, for the problem of sampling must be considered, particularly when the material is heterogeneous. In such cases semi-micro methods are sometimes more advantageous.

Microchemical methods are generally classified according to three units of weight of sample used. They are designated "semi-micro-" (in which from 10 to 50 mgm. of sample is used for an analysis); "micro-" (sample weight 1 to 10 mgm.); and "ultra-micro-" (concerned with samples of the order of between 0.01 and 1 mgm. in weight). Even with this classification it is not always easy to define what the term microchemistry implies, and con-

fusion frequently arises in the use of these prefixes. Nor is it easy to define the limits of the categories, because one may merge



Apparatus for paper chromatography (approximately quarter scale). A. reservoir for solvent; B. position of test drop; C. solvent vessel; D. paper strip showing developed salts.

with another as, for example, in the isolation of a constituent of which there is only a small amount present in the sample. Thus, it may be necessary to use a weight of sample that falls within the semi-microcategory in order to be able to isolate and determine a constituent that falls in the ultra-micro- range. For better definition, and to eliminate most of the ambiguity, "milligram analysis" and "microgram analysis" are sometimes used in preference to the micro and ultra-micro prefixes.

Microchemical methods are applied extensively in most branches of analytical chemistry for which there are many complementary procedures that have proved invaluable for isolating and identifying elements and compounds. Methods developed for milligram analysis employ procedures based on spot reactions, chemical microscopy2, and chromatography3, 13. and anions are almost always identified by spot reactions because of their specific, selective, and sensitive nature. Often, by careful selection of reactions and reagents a number of elements or even compounds constituting a mixture can be identified without a preliminary separation, as is necessary in macroanalysis. When separation is desired because of the complex nature of the sample, then the cations are separated into workable groups as in macroanalysis, and each member of the individual groups is identified separately. The separation into groups is carried out almost exclusively in centrifuge cones, because centrifugal force as a means of separating a solid from a liquid is much safer and quicker than filtration. Suitable systems of schematic analysis now exist4 which employ tests based on the formation of characteristic colours or precipitates and which are carried out with concentrated drops of the test solutions on absorbent paper, or in a depression of a white tile.

Analysis for Cations

Microgram analysis for cations is carried out by a combination of procedures and methods in which a microscope and spot reactions play a predominating part, This exceedingly fine work, advanced mainly by the investigations of Benedetti-Pichler⁵, has extended chemical microscopy even further than its main function of the microscopic examination of crystal forms. Use of the microscope has enabled spot reactions to be extended to the lower limits of identification. The functional field of chemical microscopy has grown through its ability to deal with minute drops of test solution, so permitting the use of concentrated solutions which is a significant factor in microgram analysis. That ability, in conjunction with special manipulative techniques for handling the minute quantities of materials, and the use of spot reactions, has provided a new approach to some of the problems confronting the analyst at the present time. The microgram field in both its qualitative and quantitative aspects has already proved indispensable in the research and production phases of atomic energy, and that field will no doubt provide a vigorous impulse for further development and utilisation of the techniques. It is doubtful, however, if the less exacting milligram applications will be replaced for general use. The biochemist, and those investigating the rôle of trace elements and compounds in the human body, stand to gain most from the use of new smaller-scale methods.

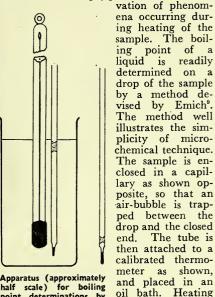
Identifying Groups

Spot reactions to identify organic compounds are not so extensively used, owing to the complex nature and the vast number of the compounds to be dealt with. They are usually identified by synthesis, their physical constants, and ultimate analysis. Certain characteristic organic groups can be identified by spot reactions; others, by rearrangement or degradation of the compound to form a product with which it is possible with a reagent to obtain a specific colour change or a recognisable and characteristic reaction. Sometimes it is possible to identify members of a similar group of compounds by the formation of different colours with one reagent.

Before attempting a quantitative estimation of an organic compound, the analyst may often have to purify or even separate the compound from other material. This can often be accomplished by ordinary chemical techniques such as crystallisation or distillation, using apparatus scaled down in size to accommodate the few milligrams of material. Techniques are also available for even smaller quantities of sample, with which, though perhaps more exacting, they are just as simple in application. The apparatus generally used comprises centrifuge cones and microscope slides for simple separations and crystallisation, and capillaries for crystallising a few grains of a compound or distilling a single drop of a liquid. Micro-sublimation and soxhlet extraction procedures are also used in micro separation work. Those and numerous other procedures have been described in great detail by Scheider.

Microchemical technique has been used with surprising efficiency for the isolation, characterisation, and synthesis of numerous vitamins, hormones, antibiotics and other naturally occurring products. These achievements have resulted from the use of physical methods and microgram procedures. The determination of the melting point or boiling point of a product is the first step in characterisation. The melting point of a few micrograms of a compound

using a Kofler⁸ melting-point apparatus, which makes use of a hot stage beneath the field of a microscope, permits closer obser-



Apparatus (approximately half scale) for boiling point determinations by Emich's method, showing (right) position of liquid drop in the capillary tube.

sample is reached when the drop of liquid reaches the level of the bath liquid, caused by the expansion of the bubble of air below the drop. Other physical constants such as molecular weight, density, and refractive index provide a means of identifying organic compounds. A useful review of such methods has been published by Wilson¹⁰. Many other useful physical procedures have become generally available in recent years. Infra-red and ultraviolet spectroscopy, polarography and potentiometry may be classed as microphysico-chemical methods, because they are especially suited to the detection and determination of small amounts of material.

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tiously, and

The use of chromatography in microchemical analysis is a fairly recent application, although it was first used in 1861 by Schönbein¹¹. Schönbein discovered that, when solutions ascend strips of absorbent paper, the dissolved materials lag behind the solvent front in separate bands. This phenomenon forms the basis of a number of procedures for separating two or more substances, which have been applied to a wide range of materials prior to their

being identified or estimated. Separations can be carried out in two ways. In one, the solution is percolated through a column of alumina12, pulped filter paper13, or other suitable absorbent packed in a glass tube. In the other, separation is carried out on sheets or strips of suitable filter paper. The paper strip type of chromatographic separation is best suited for microanalysis, as the amount of material is normally limited to a maximum of 1 mgm., and the experimental procedure is less involved than separations on columns. Identification of cations and anions is accomplished by "developing" the bands with a reagent solution which is sprayed on to the paper, and is the method most commonly used at present. In quantitative examinations the presence and position of the bands are determined by spraying with the reagent; the coloured bands are then cut from the strip, leached out with dilute acid, and the separated salts determined by suitable The apparatus used micro-procedures. for paper chromatography is illustrated on p. 381. Controlled atmospheric conditions are essential, so the diffusion of the solvent down the paper strip is carried out in a closed atmosphere saturated with the solvent used. The test solution under examination is spotted on the strip nearest the end immersed in the solvent contained in the receptacle attached to bung closing the glass jar. When the solvent has diffused sufficiently down the paper, the strip is removed, air-dried, and treated. Excellent reviews on chromatography have been published14.

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CHEMISTRY OF PHOTOSYNTHESIS

AT a meeting of the Scottish Department of the Pharmaceutical Society held in Edinburgh, on January 31. Dr. MOWBRAY RITCHIE (reader in chemistry, University of Edinburgh) gave an illustrated address on "Photosynthesis" of which the following is an abstract:—

The word "photosynthesis" is usually taken to refer to that process in which the green plants synthesise organic matter from carbon dioxide and water by the aid of sunlight. Carbon dioxide and water are transparent to sunlight, and the light energy is absorbed by the plant pigments, of which chlorophyll is essential and appears to be unaltered after illu-mination. On this basis such photosynthesis is a photo-sensitised reaction. The process is without doubt the most fundamental of all biochemical reactions. Green plants accumulate energy while other organisms dissipate it. In spite of intensive study by investigators in many different fields, no conditions outside the living plant system have so far been found under which normal photosynthesis may be imitated, though the main principles by which it is accomplished are gradually becoming clear. Photosynthesis produces oxygen, the chlorophyll content apparently remaining un-changed, but chlorophyll when extracted from plant material is fairly readily attacked by oxygen in the presence of light. It may be that chlorophyll is rendered immune by attachment to protein or other plant material, or the light absorbed may be utilised to oxidise photochemically other plant constituents, or a reversible oxide of chlorophyll may be formed. Considerable attention has recently been directed to the antiseptic properties of chlorophyll in the treatment of wounds, the removal of odours and the amelioration of halitosis. Antiseptic action often involves oxidation: perhaps such pharmaceutical application is related to the general problem of photosynthesis.

Basic Essentials

Two of the fundamental facts of photosynthesis were observed by Priestley in 1771; Ingen-Housz in 1779 showed that light was necessary; Senebier in 1782 confirmed that carbon dioxide was involved and later showed that oxygen was produced; de Saussure in 1804 proved that water was required and Robert Meyer in 1845 discussed the problem from the point

of view of the energy utilised. The overall reaction may be expressed by the equation

$$xCO_2+yH_2O \xrightarrow{light} \{Cx(H_2O)y\} +xO_2$$

this corresponding to the fact that the molecular ratio of oxygen evolved to carbon dioxide consumed is approximately unity. The formula (Cx(H₂O)y) would indicate formaldehyde HCHO (x=y=l), or, generally, a member of the carbohydrate group. The most accurate experiments, however, give a ratio of x:y of 1.06; a simple sugar requires 1.00 and a disaccharide 1.09. The direct identification of the organic material primarily formed in photosynthesis has proved to be a problem of the greatest difficulty. In the plant many enzymatic processes occur while other changes may be brought about during the extraction from the plant for identification.

Theories of Mechanism

Many theories of photosynthesis have been proposed which deal with the overall effect. No direct evidence as to the nature of the inside internal processes was possible until the adoption of "tracer" "labelled isotope" techniques of experiment. It is by this means that the recent advances have largely been achieved. In 1941, Rubens and co-workers carried out experiments in which water and carbon dioxide containing the oxygen isotope O¹⁸ were employed. It was established that the proportion of O18 in the liberated oxygen was equal to its proportion in the water and was independent of its proportion in the carbon dioxide. It was therefore concluded that most, if not all, of the oxygen liberated in photosynthesis comes from the water used. Such results have served to emphasise the view that photosynthesis is essentially an oxidation-reduc-tion mechanism in which the carbon dioxide is reduced and the water oxidised by a process involving the transfer of hydrogen atoms from water to carbondioxide. The oxidation of water is regarded as a reaction induced by the light and the reduction of carbon dioxide a thermal catalysed reaction.

In recent years the mechanisms of many biological oxidation-reduction systerms have been elucidated and the transfer of hydrogen atoms from molecule to molecule has emerged as the most important elementary act in these processes. Many of these systems show a marked resemblance to photosynthesis. For example, some types of bacteria exist that will reduce carbon dioxide, not by water but by other hydrogen-containing molecules, e.g., hydrogen sulphide, methane or hydrogen itself. From that point of view, recent experiments by Calvin and coworkers in America are of exceptional ininterest. If the path of carbon in photosynthesis is independent of light absorption and thus of the production of hydrogen or hydrogen containing reducers, illumination of a plant would be expected to produce these reducers in the absence of carbon dioxide and the subsequent addition of carbon dioxide in the dark would be expected to start the reducing sequence leading to the final product. If the reducing power in such circumstances is essentially the same as in ordinary photosynthesis the rate of dark absorption of carbon dioxide should then be the same as if the light were applied. It has in fact been shown that from this kinetic point of view dark fixation of carbon dioxide following preillumination resembles very closely that of ordinary photosynthesis. Chromatographic procedures established the fact that the compounds formed ultimately, from the preilluminated system followed by dark carbon dioxide treatment, were exactly the same as those formed in an ordinarily illuminated preparation.

The order of appearance of photosynthetic products was ascertained by a radioactive tracer method. By progressively shortening the period of illumination of algae in radioactive bicarbonate solution, and by apid stopping of the reaction by means of not alcohol, it has been found possible by nodified chromatographic processes to dentify and establish in order of time various compounds of increasing molecuar simplicity. Following ninety seconds of uch illumination, some fifteen compounds vere isolated and identified: when the ime was reduced to 5 seconds the num-per was reduced to four or five, with a distribution of radioactivity indicating that n such time 65 per cent, of the total adioactivity was associated with phospholyceric acid. At lower temperature (4° 2.) after about 10 seconds illumination the ingle compound 2-phospho-glyceric acid vas obtained as the first determinable ompound to appear in the fixation of caron dioxide by green plant material. It suggested that the precursor is vinyl

phosphate, this being supported by the fact that under certain conditions of relatively short exposure, radioactive acetaldehyde can be obtained after hydrolysis. It is thus not the formerly postulated formaldehyde which is initially concerned but a compound which structurally is not far removed from it.

Utilising the Water

Reference may now be made to the other main reaction of photosynthesis, the splitting of water to give on the one hand the reducing agents required above, and on the other the production of oxygen from the OH residue. It is unlikely that the hydroxyl radicals so formed react to form hydrogen peroxide and hence free oxygen. Certain dyestuffs when illuminated in aqueous solution produce hydrogen peroxide, but only in the presence of oxygen. This has not been observed with chlorophyll. In photosynthesis itself some evidence indicates the formation, not of hydrogen peroxide, but of a peroxide compound. Recently, it has been shown that chlorophyll, extracted from plant material and illuminated in film form on glass or on various other solids in the presence of dry oxygen, shows an oxygen uptake of one molecule of oxygen per molecule of chlorophyll. A similar relationship exists for the associated carotene. Moreover, both reactions can be reversed, partially at least, by simple reduction of pressure, indicating the existence of a reversible oxygenated compound. In the case of chlorophyll, no such photo-oxidation takes place below a pressure of 0.05 mm. (at 25° C.), this being regarded as the oxygen dissociation pressure of the compound concerned.

In answer to questions put by Professor Hirst, Dr. Ritchie said that, so far as he knew, there was no evidence as to how the vinyl group was formed. With regard to pentoses and other 5-carbon compounds, he stated that the experiments which had been carried out were limited to periods of illumination of not more than 90 seconds when no 5-carbon compounds had been formed. Dr. Blyth (a botanist) thanked Dr. Ritchie for having made the chemistry of his subject so clear and simple. He asked if it was quite certain that the compounds formed during the experiments were exactly the same as those which would be produced under natural conditions. Dr. Ritchie replied that chromatography left no doubt about the

identity of the compounds.

CHEMISTS' UNSOLVED PROBLEMS

AT a meeting of the Edinburgh and Southeastern Scottish Branch of the Pharmaceutical Society held in Edinburgh recently, MR. GWILYM HUGHES (a member of the Society's Council) spoke on "The Pharmacist and His Problems."

A Fault in the Testing Scheme

A problem of pharmacists in England and Wales, he said, was that, under the testing scheme for dispensing, the Minister of Health could over-ride the findings of a Pharmaceutical Committee. Scottish pharmacists, if they were ever under the threat of having such a scheme imposed, should not accept it without some modification. The problem of advertising dispensing services was being dealt with by the Council. Advertisements claiming, say, the use of the purest drugs were unprofessional as they implied that only the advertiser provided the purest drug, and that the man "down the road" was using something inferior.

To overcome the man-power shortage, various suggestions had been put forward, such as calling on pharmacist displaced-persons and recognising as technicians a section of unqualified labour. He could approve neither suggestion, but thought that the man-power position would, in time, right itself.

The speaker said he was surprised to hear of a current lack of apprentices in Scotland, which country he had always regarded as taking the first moves in education legislation. He concluded on the note that if members of the Society strove always to be good pharmacists, wise in their dealings with the public, and loyal to the craft, the outlook was bright.

Discussion

The Chairman (Mr. G. Hedderwick) said that low salaries had discouraged headmasters from bringing pharmacy to the notice of young people as a suitable career. The shortage of apprentices in Edinburgh was pronounced, but the difficulty might be overcome if the local education committee would arrange for pharmacists to give short talks on the subject.

Mr. C. G. Drummond, Edinburgh, declared that in Scotland the introduction of the National Health Service had generally meant a mere switch from one kind of dispensing to another. The huge in-

crease in dispensing that had created the man-power shortage south of the border had not obtained in the north. Scotland's man-power shortage was largely due to the emigration of Scottish pharmacists to accept posts in England. Scottish pharmacists had foreseen that producing highly qualified academic pharmacists would create a "vacuum" of some kind. Short man-power in a profession meant higher remuneration-a desirable situation that ultimately resulted in an influx of recruits. The lack of entrants to pharmacy in a university city such as Edinburgh was understandable when one remembered that the entrance qualification also entitled them to enter other professions. The objective for pharmacists in the Armed Forces should be that citizens in uniform should receive a pharmaceutical service not inferior to that which they received in pri-

Criterion for Council Candidates

The criterion for a man's fitness to be a Council member should be his interest in pharmacy. Mr. Drummond could not see how or why a pharmacist should oppose the introduction of a dispensing testing scheme in Scotland. Huge sums of public money were involved in the country's N.H.S. dispensing, and there must be some safeguard to the community that it was wisely spent.

MR. HUGHES told MR. H. T. THOMAS, Kelso, that the Council was again taking up the matter of Commissions for pharmacists in the Forces. He underlined the importance of Mr. Drummond's remarks on the pharmaceutical service made available to Forces personnel. MR. J. L. WILson, Polmont, urged the Council to seek the formation of a Pharmaceutical Corps within the Army, and MR. HUGHES replied that the fact that pharmaceutical corps had been formed in the American and Australian Forces might strengthen the Society's case for a similar corps in Britain. He informed Mr. A. ROBERTSON, Edinburgh, that the Council was proposing again to allow a two-year apprenticeship to be served before sitting the Intermediate examination, and Mr. Drummond reminded Mr. Hughes that the Executive of the Scottish Department had always strongly held that apprenticeship should be taken before the academic course.

FUEL ECONOMY IN PRACTICE

TUEL ECONOM

BUEL-SAVING modifications in the boiler house at the Greenford head-quarters of Glaxo Laboratories, Ltd., have proved so successful in solving some of the company's coal shortage problems that they are being adopted by other manufacturers. Normally 60 per cent. of the electricity used in manufacturing processes, lighting, etc., at Greenford is produced by the company's own generators, powered by steam from two water-tube boilers. The versatility of these boilers, which function efficiently on coal, coke, or a mixture of both, has reduced the effect of variations in fuel supplies.

Alterations to Boiler

When the first boiler was installed in 1946, it was designed to burn a mixture of 70 per cent, coal and 30 per cent, coke. In July 1947 a modification recommended by the makers was adopted both as a means of using quantities of low-grade fuel and as an economy measure. Further modifications were designed by the engineering department of Messrs Glaxo in consultation with the makers, local contractors were called in, and within four weeks additional air-trunking and a fan were installed. The change entailed subdivision of the inside of the stoker chain grate to isolate the end to which the coke is fed. A fan was arranged to draw a small quantity of the hot products of combustion through the incoming coke to dry it, and to discarge those products to an ash hopper beneath the boiler.

As a result, it was found possible to use 100 per cent. low-grade fuel. The boiler manufacturers expected a sharp reduction in steam output, and were pleasantly surprised to find that, with coke alone, the boilers were exceeding the anticipated continuous rating of 20,000 lb. of steam per hour by 5,000 lb. Apart from the saving in coal, the financial economy is considerable. Up to 10 per cent. more. fuel is burnt than if coal were used, but the price of coke is approximately 30 per cent, lower than that of coal. A further economy was made possible by superheating the steam. At a pressure of 400 lb. per sq. in., the normal temperature would be around 450° F., whereas increasing it to 650° F. has ensured that the steam arrives at the process-plant free from condensed water.

The recent national fuel economies have neant a 10 per cent. cut in the allocation

of coke to the company. To meet the situation the engineering department is now endeavouring to carry on the whole load on one boiler. That puts a great strain on a single boiler, and each is completely overhauled when not in use. Should outside supplies of electricity be cut off completely, it would be necessary to employ both boilers to produce all the electric power required, and that would entail drawing on fuel reserves. Rigid economies are practised throughout the plant, and the staff are urged to conserve power in every possible way.

The generators are run in parallel with the British Electricity Authority grid, and a balanced heat load is maintained which ensures that only the amount of steam required to be used in the process passes through the generators. Thus there is no wastage of excess steam. Considering the post-war expansion of the company's output the present average consumption of 180 tons of coke per week is modest compared with the 70 to 80 tons of coal consumed procedure to the contract of the contract of

weekly in 1946.

WORLD TRADE

Brazilian Tax Exemption.—The Brazilian Government has exempted certain pharmaceutical products from excise taxes under an ordinance of January 9. The products involved are those used in the treatment of patients suffering from worms, malaria, schistosomiasis, leprosy and tuberculosis.

American Products in India. — Under an agreement between E. R. Squibb & Sons, New York, U.S.A., and Sarabhai Chemicals, Baroda, India, the pharmaceutical products of the American company are to be made at Baroda. Technicians from Sarabhai Chemicals are to be trained in Messrs. Squibb's laboratories.

Scientific Instruments at Canadian Fair.—The Scientific Instruments Manufacturers' Association of Great Britain, in order to follow-up the successes achieved at the 1950 Canadian International Trade Fair, has reserved a large block of space in the forthcoming Fair to be held in Toronto from May 28 to June 8. Representing fourteen member firms the Association will display a wide range of instruments with industrial, medical, research and educational application, together with new equipment demonstrating trends in British industrial design.

TRADE REPORT

Spot quotations for pharmaceutical chemicals represent the prices for wholesale quantities of standard quality. Prices of crude drugs and essential oils vary as to brand or grade.

London, March 20

PHARMACEUTICAL and FINE CHEMICALS are receiving a brisk demand though dediverses continue to be held up as a result of shortages of raw materials. A good inquiry is forthcoming for CITRIC and TARTARIC ACIDS, the market for those products is very firm. Sulphonamides remain ducts is very firm. Sulphonambes remain in very short supply and large quantities are wanted for export. Lactic acts is dearer and also Lactates. An increase is reported in the price of Aminophylline of 4s. per lb., while Benzocaine has advanced by 3s. 6d. per lb. The Treasury has made an Order (S.I., 1951, No. 445) exempting from Key Industry Duty for the period March 22 to August 19: Carbon disulphide; cobalt sulphate; formic acid of a strength less than 98 per cent. by weight; lithium carbonate; phosphoric acid; tricresyl phosphate; and triethyl phosphate.

Only a small trade has been done in CRUDE DRUGS but, generally, the tone of the market is firm. The better qualities of Chinese Rhubarb are in good inquiry and supplies on the spot remain short. Sumatra Benzoin is firm at origin and the best quality almondy block on the spot is now £31 per cwt. IPECACUANHA is very firm and scarce: Colombian root is dearer for shipment and any available supplies on the spot would be not less than 62s. per lb. Chinese Camphor is fully steady, with spot prices unchanged. A substantial advance has been made in the export tax levied by the Chinese Government on MEN-THOL and has caused c.i.f. prices to rise by between 6s. and 7s. per lb. African GINGER is steady at the lower prices of last week but Jamaican root continues firm. Zanzibar CLOVES on the spot are steadier—the complete Zanzibar crop has now been harvested and is expected to total 18,750 tons. West Indian Nutmegs are inclined to be a little harder, as a result of current disturbances in Grenada; offers are now being made of East Indian nutmegs. Shellac is a dull market, with spot values lower on the week. GUM ACACIA is short on the spot and it is now difficult to get offers for shipment from the Sudan. Trading in WAXES has been rather quiet and the tone of the mar-ket is slightly easier.

Export Taxes on Essential Oils

There has been little change in Essential Oils. Prices generally have been well maintained. Chinese Peppermint is a stronger market as a result of a similar export tax to that of menthol. Ceylon Citronella and Cardamom oils have also been subject to new export duties: the Ceylon Government announced on March 14 that both of these oils would bear a new duty of two rupees per lb. Good qualities of French LAVENDER are extremely short and the price at the source of the high-percentage oil is in the region of 7,000 francs with lower grades between of 7,000 francs with lower grades between 6,000 and 6,500 francs per kilo.

U.S. Drug and Chemical Report

New York, March 16
Although awaiting the announcement of allocation orders of such scarce chemicals as Sulphuric acid, chemical traders report that more business has been taking place in the past few days. The difficult supply position of a number of basic materials is having an adverse effect on the production of a large range of chemicals. especially Pharmaceutical and Fine CHEMICALS. SODIUM compounds have chemicals. Sodium compounds have been particularly hard-hit while such products as the Salicylates, Sulphonamides and some of the Vitamins are scarce. Demand for Citric acid is running well ahead of supply and the shortage is expected to become acute in the next few months, as second influences make their reports. months as seasonal influences make their appearance. The Tartrates are in a similar tight supply position with the market firm. The National Production Authority has issued an order banning certain uses of BISMUTH; permitted uses of the metal, however, include pharmaceutical products. A slightly firmer tone prevails in the Mercury market with spot prices ranging from \$214-215 per flask. Unofficial reports in the trade indicate that the negotiations on the part of the Government for the purchase of 3,000 flasks of Italian mercury in Italy have fallen through. The imm train have father through. The improved tone however may prove only temporary as clarification of ceiling prices could bring out a greater amount of metal in the market. CRUDE DRUGS, generally, remain quiet, though the market is firm because of reduced supplies of many articles. Small lots of Russian CANTHARIDES are available on the spot market at \$2.80 are the while Structure William 1. per lb., while STRAMONIUM LEAVES which recently have encountered only small demand can be had at 16 cents per lb. All the Balsams are scarce on spot or for shipment. The limited quantities of CASCARA SAGRADA available are commanding good prices and Seneda Root is similarly in a strong position. Firm markets are reported for Spanish Saffron, Ergot, Papala and several of the Gums. Among the vegetable Waxes, Carnauba prices are generally lower despite reports of better consumer demand. ESSENTIAL OILS continue firm but reports indicate some slackening in activity. Bergamot is very short while among the domestic oils.

Pharmaceutical Chemicals

ADRENALINE.—B.P. is nominally from 3s. to 3s, 6d, per gm, for natural and 2s, to 2s, 6d, for synthetic; racemic, 2s, per gm. Benzocaine,—Prices range from 36s, to 46s, per lb., as to quantity.

Guaiacols.—Liquid and crystal are from 15s. 6d. to 17s. 6d.; and carbonate from

16s. 6d. to 18s. 6d. per lb.

HEXAMINE. — Current quotations from makers are from 1s. 7d. to 1s. 10d. per lb., as to quantity and pack. Home market supplies are readily available, with restricted supplies for export.

HOMATROPINE,—Makers' price for Alka-LOID is from 97s, 6d. to 102s, 6d. per oz., and Hydrochloride, Hydrobromide and Sulphate, 75s. to 80s, per oz.

Hydrochloric acid. — In winchesters, B.P. 1932 quality is 5d. to $6\frac{1}{2}$ d. per lb.

IODINE PREPARATIONS .- Rates (per lb.) IODINE PREPARATIONS.—Rates (per 10.) are as follows:—RESUBLIMED IODINE, 1-bwt. lots, 18s.; 28-lb., 18s. 6d.; 7-lb., 21s. 4d. Iodoform, powder, 1-cwt. lots, 22s.; 28-lb., 22s. 6d.; 7-lb., 25s. 10½d. lodoform in crystal is 2s. per lb. more. Potassium iodide, 1-cwt. lots, 15s. 8d.; 28-lb., 16s. 2d.; 7-lb., 18s. 8½d. Sodium iodide, 1-cwt. lots, 15s. 9d.; 28-lb., 17s. 3d.; 7-lb., 20s. todide, 1-cwt. lo 17s. 3d.; 7-lb., 20s.

Kaolin.—In 1-cwt. bags, Light is quoed at 90s, per cwt., and HEAVY at about 85s. per cwt.

Lactates.—Prices rose on March 15. Calcium, B.P., is 2s. 9d, per lb. in 1-cwt. ots; 28-lb., 3s. 1d.; 7-lb., 3s. 5d. per lb. lacium sodium, B.P., for the same quantities is 4s. 1½d., 4s. 5d. and 4s. 9½d. per lb. Lactic actd, 4s. 5d. and 2 winchester ots is 4s. 3d., 6 winchesters, 4s. 6½d. and 3 winchesters, 4s. 8½d. per lb.

LIQUID PARAFFIN. — Price to wholesale distributors for Heavy, B.P., is £100 per ton (7s. 10\frac{1}{2}d. per gall.). Light, B.P., s £81 per ton (6s. 3d. per gall.), in 40/45 gall. returnable loaned drums, delivered n the U.K. WHITE and YELLOW SOFT PARAFFIN are £91 6s, 6d, and £68 0s, 6d, per ton, respectively, in non-returnable 3wt. drums. Hard Paraffin, m.p. 135/140° F., is £87; 145/150° F., £104 10s.; und 160/165° F., £125 per ton, in mini-mum ton lots, ex works.

Procaine hydrochloride. — Quotations ere in the region of from 39s. to 45s, per

b., as to quantity.

SULPHOCARBOLATES, SODIUM PHENOLSUL-PHONATE, B.P.C. (powder or crystal) is low 5s. 8d. per lb. in 28-lb. lots; 7-lb., 6s. ber lb. ZINC, B.P.C., is 5s. 4d. per lb. (28-lb.); 7-lb., 5s. 8d. per lb.

THEOPHYLLINE. — Prices of ALKALOID ange from 52s. 6d. to 60s. per lb., as to uantity. AMINOPHYLLINE is from 57s. 6d.

o 65s. per lb.

Crude Drugs, etc.

Aconite. — Spanish napellus on spot, 3s. 6d. to 3s. 9d. per lb., duty paid.

Agar.—Kobé No. 1 on the spot is from 9s. 3d. to 9s. 6d. per lb., duty paid; for shipment from Hongkong, 9s. 10d., e.i.f.,

Aloes.—Cape on the spot is quoted at about 307s. 6d. to 310s. per cwt.; afloat, 300s., c.i.f.; for shipment, 300s., c.i.f., nominal. Curação is quoted at 295s. per cwt., spot.

Areca nuts.—Ceylon, f.a.q., on the spot,

are from 40s, per lb.

Arnica flowers.—Spot quotations are from 1s. 3d. to 1s. 4d. per lb., duty paid.

Belladonna.—Root on the spot is offered at 4s, per lb.

BENZOIN.—Firm. Sumatra block on the spot is quoted at £30-31 per cwt.; for shipment, £28 10s., c.i.f., nominal. Siam almonds on the spot are about 37s. 6d. to 38s, per lb.; broken almonds, 26s. 6d. per lb., spot.

Buchu.—Old-crop short rounds on the spot are nominally 2s. 2d. per lb.; new-crop, March-April shipment, 1s. 10½d., c.i.f.

Calumba.—Natural sorts are quoted at

from 75s. to 80s. per cwt., spot.

Camphor.—Steady. Chinese refined powder (B.P.) is 5s. to 5s. 3d. per lb., spot, dety paid (4s. 7½d, in bond); ½-oz. tablets, 6s, 3d, to 6s. 6d, duty paid; 2½-oz. tablets, in bond, 4s. 9d. (to arrive, 4s. 9d.).

Cascara sagrada,—Steady. 1950 bark on spot is 385s, to 390s, per cwt., duty paid

(350s, in bond).

Cascarilla, — Quills on the spot are 1s. 4d. per lb.; siftings, 1s. 2d. per lb.

Cassia.—Whole bark for April-May shipment from Hongkong, 165s. per cwt., c.i.f., quoted.

Chamomile flowers. — Belgian No. 1, 4s. to 4s. 3d.; No. 2, 3s. 6d. per lb., ex warehouse London.

Chillies. — Mombasa, spot, quoted at 345s. per cwt.; for shipment, 315s. to 320s. per cwt. Sierra Leone, spot, 340s. per cwt. Nigerian, No. 1, 310s.; No. 2, 280s. per cwt., spot.

Cloves.—Zanzibar is quoted at 4s. 5d. per lb., on the spot; for March-April shipment from the origin, 4s. 6d., c.i.f.; resellers, 4s. 4d., c.i.f. Madagascar, spot. 3s. 9d. in bond, nominal; March-April shipment, 3s. 8d., c.i.f., value.

Cochineal.—Firm. Nominal spot values are 8s. 9d. per lb. for black and 7s. 6d. to 8s. 7d. for silver grey. Black, afloat, quoted from 8s. 1d. to 8s. 3d. per lb., c.i.f.

Cocillana bark.—Spot quotations are at 2s. per lb., duty paid in London.

Cod-Liver oil.—To wholesale distributors, medicinal, B.P., is 13s, per gall, in charged returnable drums, and 14s, 6d, per

gall. in 1-gall. tins; delivered. Veterinary oil is upwards of 13s, per gall, according to pack, and supplies are short.

COLCHICUM.—Steady. Corms on spot are offering at from 2s. 3d. per lb., as to test; seeds, 9s. per lb., spot, duty paid.

COLOCYNTH.—Little available.

value is 1s. 9d. per lb., in bond.

Dragons blood. — Singapore re-boiled No. 1, £60 to £62 per cwt., spot. No. 2, £48.

Ergot.—Portuguese to arrive is quoted at from 86s. to 90s. per lb. Galls.—Chinese for April-May shipment

from Hongkong, quoted at 230s, per cwt., c.i.f..

Gamboge.—Siam pipe is at £40 to £45 per cwt., duty paid; powder is quoted at 11s. 6d. per lb., spot London.

Gentian.—French on the spot is offered

at 140s, per cwt.

GINGER. — African, spot, at 260s. per cwt.; new-crop for April-May shipment, 225s., c.i.f. Jamaican, new-crop, March-April shipment, No. 3, 407s. 6d., c.i.f.; No. 2, 410s., c.i.f.

Guaiacum. — Spot quotations are from

3s. 3d. to 3s. 6d. per lb.

GUM ACACIA.—Kordofan cleaned sorts on the spot, 142s. 6d. per cwt.; for March-April shipment, 115s., c.i.f.

IPECACUANHA. — Firm. Colombian for May-June shipment, 59s. per lb., c.i.f.; any available supplies on the spot would probably be 62s. per lb. No offers of Nicaraguan or other types of root.

Jalap.—Steady. Vera Cruz, 9-11 per cent. resin, is available on the spot at 3s. 6d. per lb.: 15 per cent., 3s. 9d. Little, if any, Brazilian root is now available.

Karaya.—No. 1 gum on spot, 450s. per

cwt., sellers.

Kola nuts.—African halves on spot are offering at from 53d. to 6d. per lb., for shipment, 34d., c.i.f.; quarters are quoted at 64d. per lb., spot.

LANOLIN.—For a good grade anhydrous a price of £140 to £145 per ton would

be asked. Supplies are short.

LIQUORICE.—Anatolian natural root on the spot in London is offered at from 51s. 6d. per cwt. Russian natural is from 56s. to 58s. per cwt., spot London. Syrian 50s, to 50s, per cwt., spot London. Syrian natural, cut, 55s. per cwt., ex warehouse London. British block juice, 150s. to 195s. per cwt., as to grade. Turkish block juice is quoted at from 150s. to 220s., duty paid, according to holder, Turkish stick is from 170s. per cwt., duty paid. Italian stick, 240s. to 475s. per cwt., duty paid.

MACE.—West Indian pale blade is nominal at 9s. 9d. per lb.; for shipment, 9s. 4d., c.i.f.

Male Fern.—Jugo-Slavian on the spot is 55s, per cwt.; for shipment, 48s., c.i.f.

Mastic.—Quotations for tears (No. 2) are about 12s. 6d. per lb., spot.

MENTHOL.—Firm. Chinese on the spot is from 98s. 6d. to 102s. 6d. per lb., duty paid (94s. 6d. in bond); affoat, 93s., c.i.f., buyers, and 95s., c.i.f., sellers; for March-April shipment, 94s. 6d., nominal, c.i.f. Brazilian, March-April, 92s.; April-May, 88s.; June-July, 85s. to 86s., c.i.f.

MERCURY. — Spot quotations are from £73 10s. to £74 per flask, ex warehouse.

Myrrh.—Aden selected sorts are quoted at £18 per cwt.; B.P. sorts, £14; siftings, £8 10s.; spot London.

Orange peel.—Spanish bitter quarters offered at 1s, 8d, and ribbon at 1s, 6d, per lb., duty paid, spot. West Indian quarters are available at 1s, 3d, per lb., spot, Tripolitanian thin-cut ribbon, 2s. 4d. per lb., ex warehouse.

PAPAIN.—East African white on spot is quoted at 32s, 6d, per lb.; Ceylon white is also about 32s, 6d, per lb. with sundried at 27s. 6d.

Quassia.—Chips on the spot are offered at 35s. per cwt.; for shipment, 28s., c.i.f.

Quillaia.—Whole bark on spot is 160s. per cwt. (cut, 190s, per cwt.).

QUINCE SEED.—Cape on the spot, 4s. per lb.; Continental, 3s. $0\frac{1}{2}$ d. per lb. spot.

Rhubarb.—For very good quality Chinese rough-round root, 10s, per lb., duty paid (9s. in bond) is asked, with medium grades at from 6s, 6d, to 7s, 9d., duty paid; wormy material is available at about 3s. 6d. per lb., duty paid.

SAFFRON.—Spanish on the spot is avail-

able at 276s, per lb.

SARSAPARILLA.—Jamaican native red is from 2s. 6d. to 2s. 7d. per lb.; for ship-

ment, 2s. 5d., c.i.f.

SEEDS .- Turkish Anise on the spot, 150s. per cwt., in bond and 160s. per cwt., duty paid. Cyprus is 165s, per cwt., duty free. Caraway.—Dutch continues firm at 225s. per cwt., duty paid in London. CELERY.—Indian on spot is unchanged at 1s. 10½d, per lb. CORIANDER.—Market is easier owing to lower prices quoted for old- and new-crop seed for shipment. Morocco has been sold at 192s, 6d, per cwt., duty paid. For prompt shipment, 180s. per cwt., c.i.f. now quoted. New-crop, for June-July shipment, is quoted at 130s. per cwt., c.i.f. No business reported. CUMIN.—Market quiet. Cyprus on spot offered at 255s, per cwt.; afloat is also offered at this price. New-crop Indian, for April-May shipment, is 230s. per cwt., c.i.f. Morocco new-crop, for June-July shipment, is 245s. per cwt., c.i.f. DILL.—Indian is quiet. Seller on spot at 80s. per cwt. FENNEL.—Indian is in short supply on spot. For shipment, sellers quoting oldold- and new-crop seed for shipment. on spot. For shipment, sellers quoting oldcrop seed at 120s. per cwt., c.i.f., and newcrop at 140s. per cwt., c.i.f., both for

March-April shipment, FENUGREEK.— Morocco on spot London or Liverpool, quoted at 52s. 6d. per cwt., duty paid.

SENEGA.—Spot is quoted at 24s. per lb.; nothing available at origin.

SENNA. — Steady. Tinnevelly leaves, f.a.q., No. 2, 1s. $5\frac{1}{2}$ d.; No. 3, 1s. 4d.; No. 4, 1s. 3d. per lb., all ex warehouse London. Tinnevelly pods, hand-picked, 2s. per lb. Alexandrian manufacturing pods have been sold at 1s. 6d. per lb., spot.

SHELLAC. — A dull market. Spot F.O.T.N., pure, is 385s.; F.O. Standard 1, 425s.; and fine orange, 450s. to 510s. per cwt.

STROPHANTHUS.—Firm. Kombé, 100 per cent., 21s. per lb. on the spot; afloat, 21s. 6d., c.i.f.

STYRAX.—Firm. Spot supplies are quoted at 8s. 9d. per 1b., in bond (9s. 6d., duty paid).

TONKA BEANS.—Frosted Parà are offered at 6s. 6d. per lb., and Trinidad at 7s. 6d., ex warehouse.

Tragacanth.—Firm. No. 1 ribbon on the spot is £200 per cwt.; No. 2, £175; No. 3, £155; No. 4, £85.

Turmeric.—Madras finger is offered at 100s, to 105s, per cwt., spot London; for shipment, March-April, 95s., c.i.f., quoted.

VALERIAN.—Belgian on the spot is quoted at 185s, to 190s, per cwt., spot. Indian is 160s. per cwt., spot; for shipment, 160s., c.i.f., quoted.

Waxes.—Steady, Dar-es-Salaam Bees' is 775s. per cwt., spot; for March-April shipment, 760s., c.i.f Benguella on spot is 670s, in bond and 720s. per cwt., duty paid; March-April shipment, 650s., c.i.f. Sudanese, 730s., duty paid, nominal; for shipment, 635s., c.i.f. Candellila.—Spot is 635s. per cwt. Cannauba.—Prime yellow is steady at 1,300s. per cwt.; for shipment, 1,200s., c.i.f. Fatty grey is quoted at 1,150s. per cwt. on spot; afloat, 1,990s., c.i.f. for shipment, 1,070s., c.i.f. Montan.—Reibeck on spot is 127s. 6d. per cwt. Ourlicuri.—0.5 per cent., impurities, 1,080s. per cwt., spot; for shipment, 1,000s., c.i.f.

Essential and Expressed Oils

Almond, — Expressed sweet oil (B.P.) on the spot is from 6s. per lb. Bitter essential oil, s.a.d., on the spot, is from 27s. to 55s. per lb., as to grade.

ANISE.—Chinese star on spot is about 14s. 6d. to 14s. 9d. per lb.; for shipment, 14s. 6d., c.i.f.

BERGAMOT.—Nominal spot price is 60s. per lb. Supplies are short.

Bois DE Rose,—Brazilian on the spot is from 39s, to 43s, per lb., as to quantity; for shipment, 35s., c.i.f.

CAMPHOR.—White oil in drums is quoted at 2s. 6d. and brown at 2s. per lb., duty paid; white, for shipment, 1s. 10½d., c.i.f.

Caraway. — Firm. English-distilled is available at 50s.; imported oils in limited supply are from 38s. to 40s. per lb., on the spot.

Cassia.—Spot supplies are offered at 35s. to 36s. per lb.; for March-April shipment, 34s. per lb., c.i.f.

Castor oil.— B.P. oil on the spot is nominally £275 per ton; Firsts, from £265 to £270 per ton, naked, ex mill.

CITRONELLA.—Ceylon is offered at 20s. per lb. on the spot; for shipment, 20s. per lb., c.i.f., nominal. Java, for shipment, 21s., c.i.f., nominal.

CLOVE.—English-distilled bud oil is from 30s. to 30s. 9d. per lb.; Zanzibar-distilled stem oil is nominal at 18s. per lb., spot. Madagascar leaf oil is available at 15s. per lb., duty paid.

CUBEBS.—English-distilled is offered at from 50s. to 55s. per lb. Imported is quo-

ted at from 60s. to 65s.

DILL.—English-distilled oil is quoted at about 65s, per lb, for B.P. quality. Imported oils are offered at from 45s, to 55s, per lb., as to holder. East Indian, 37s. 6d., spot.

FENNEL. - Spanish sweet on the spot

is offered at 15s. per lb.

GINGER.—Firm. English-distilled oil is in the region of 230s, per lb. Imported oils are available at from 175s, to 180s, per lb.

JUNIPER BERRY. — Imported oils are dearer at from 22s, per lb., duty paid; English-distilled, first quality, is offered at 95s. per lb.

Lemongrass.—Spot is available at about 33s. 6d. per lb.; for shipment, 32s., c.i.f.

Nutmeg.—English-distilled oil is about 55s. to 57s. 6d. per lb. Imported oi. (B.P.) is about 36s. to 40s. per lb., duty paid.

OLIVE.—French or Spanish oil is quoted at from 34s, to 35s, per gall. (9-lb.) in drums, ex wharf.

Palmarosa.—Prices asked are from 55s. to 58s. per lb. for spot supplies.

PEPPERMINT. — Chinese arvensis oil on the spot is about 35s. 6d. to 36s. 6d, per lb.; for shipment, 35s., c.i.f., nominal, Piperita is available at from 58s. 6d. to 65s. per lb., as to grade.

PINE.—Pumilionis on the spot is offered at from 13s, 6d, to 14s, 6d, per lb.; sylvestris is available at from 12s, 6d, per lb., and Siberian (abietis) is 19s, 6d, to 21s, 6d, per lb.

ROSEMARY.—Spanish on the spot is 9s. to 10s. 6d. per lb., duty paid, as to seller.

SPEARMINT.—Spot supplies are nominally 47s. 6d. to 50s, per lb., duty paid.

TRADE MARKS

From the "Trade Marks Journal," March 7, 1951

For agricultural and horticultural chemical products (1).

AGRIMAX, 695,513, by Ward, Blenkinsop & Co., Ltd., London, W.1.

For soaps (3).

SOAPERIOR, B688,123, by U.S. Sanitary Specialities Corporation, Chicago,

For non-medicated toilet preparations for use in shaving (3).

RISE, 693,463, by Pretested Products, Ltd., London, E.C.2.

For non-medicated toilet preparations, perfumes, soaps and cosmetic preparations (3).

"A" with wings, B688,891, by Elizabeth Arden, Ltd., London, W.1.

For cosmetic powder cases (3).

CHERIE, B693,685, by Kigu, Ltd., London, N.W.10.

For medicated liquids or ointments for human use (5).

VASOGEN, 665,292, by E. T. Pearson & Co., Ltd., Mitcham.

For all goods (5).

LEMASP, 679,189, by Phoenix International Distributors, Ltd., Maidstone, VIARIN, 689,990, by Ciba, Ltd., Basle.

For medicated hair and scalp pomade (5). LUSTRONE, Frances Fox Laboratories, Ltd., London, E.C.4.

For pharmaceutical preparations (5).

DIPLOMYCIN, 688,719, by Diplomycin-Gesell-schaft Sturm & Co. mit beschränkter Haftung, Hamburg, METANIN, 689,498, by the Wellcome Foundation, Ltd., London, N.W.1. GRASTELL, 693,553, by Fergus Grant (Traders), Ltd., London, S.W.1. PRONESTYL, 693,838, by E. R. Squibb & Sons, New York.

For pharmaceutical preparations and substances, sanitary substances, medical and surgical plasters, surgical dressings, poisons for noxious animals, fungicides, insecticides and disinfectants (5).

DIPLOMYCOL, 688,720, by Diplomycin-Gesell-schraft Sturm & Co. mit beschränkter Haftung, Hamburg.

For medicated salves and ointments, medicated preparations for introduction into the vagina and medicated preparations for internal human use for the production of fertility (5).

KYLON, 690,637, by Ernest Frank Budd, Lang-

For moth repelling and destroying preparations

MOTHETTE, B691,988, by the Service Supply, Ltd., London, W.C.2.

For deodorants (5).

PHYLODOR, PHYLODER, 692,649-50, by Peter Eric De Rees, London, W.1.

For agricultural and horticultural insecticides (5). GAMMAKIL, GAMMAFOG, 692,741-42, by Geo, Monro, Ltd., Waltham Cross. For cough syrups and medicated throat pastilles (5).

MAYDEW, B693,648, by Laboratoires A. et M. Cazé, Paris.

For insecticides and fungicides (5).

PESTOSAN, 693,835, Pest Control, Ltd., Bourn. For muscle-relaxant preparations (5).

TOLSEROL, 693,845, by E. R. Squibb & Sons, New York.

For antibiotics, being pharmaceutical preparations (5).____

CERVOMYCIN, 694,032, by Harker Stagg, Ltd., London, E.1.

For veterinary preparations (5).

OLD HUNTSMAN and device of huntsman's head, 695,139, by Monica Mary Barnes, Kettering,

For shampoos for removal of dandruff (5).

DARESH, 695,562, by Beautisales, Ltd., London, W.1.

For medicated toilet paper (5).

WILVAX, 695,640, by J. Williams (Leeds), Ltd., Leeds.

For non-medicated toilet paper, paper handkerchiefs and tissues (16).

SUPLEX, 693,547, by Tissue Papers, Ltd., London, E.C.2.

For non-medicated tissue paper handkerchiefs (16). POND'S TISSUE HANKIES on label device, 690,996, by Pond's Extract Co., Ltd., Greenford.

For babies' napkins (25).

MENE, 689,843, by Robinson & Sons, Ltd., Chesterfield.

PRINT AND PUBLICITY

Booklet on Sponges.—A new brochure and illustrated price list, "The Case of the Well-dressed Sponge," has been issued by Cresswell Bros. Sponges, Buck Street, London, N.W.1.

Calcium Phosphate Booklet.—A booklet on Ibex acid calcium phosphate 80% has been prepared by Albright & Wilson, Ltd., 49 Park Lane, W.1.

Medical Leaflets.—Leaflets, folders and booklets obtainable from manufacturers include those listed below:—

Burroughs Wellcome & Co., 183 Euston Road, London, N.W.1: Codemprin (Empirin acetyl salicylic acid, phenacetin, caffeine, codeine phosphatel; "Wellcome" diphtheria-pertussis prophylactic (D.P.P.); Carbachol, B.W. & Co., "Penicillin in General Practice" (all 4 pp.). Tabloid memoranda No. 10 (pp. 16).

BOOTS PURE DRUG Co., LTD., Nottingham: "Sulphonamide Suspensions" (7 pp.); Thiostab brand injection of sodium thiosulphate and Calciostab brand injection of Calcium thiosulphate; Epitone, a tonic (2 pp. leaflets); testosterone propionate and methyltestosterone, Boots (8 pp.).

CIBA LABORATORIES, LTD., Horsham, Susex: Privine (8 pp. booklet and 2 pp. leaflet for pocket nebuliser). Entero-Vioform for the treatment of diarrhoras (4 pp.).

INTRODUCING

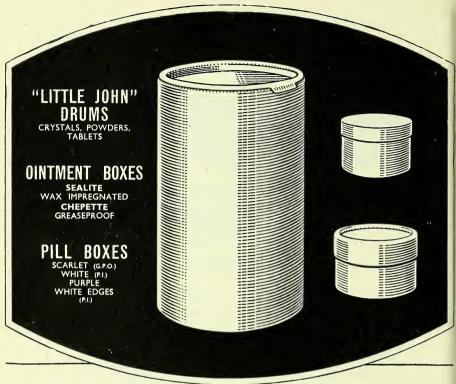
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LITERATURE: On request from the Medical Information Department, Speke, Liverpool 19 or 50 Bartholomew Close, London, EC1



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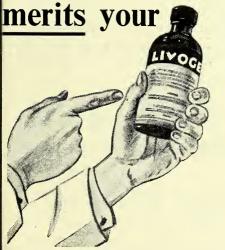
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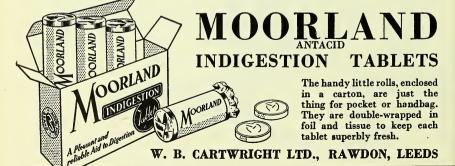
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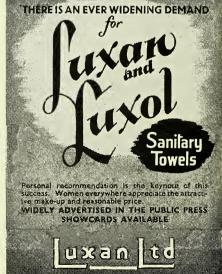
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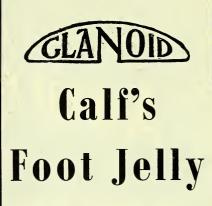
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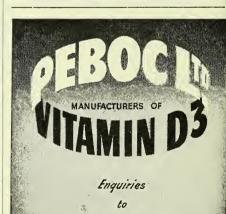
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Your customers will see this new campaign in all the national dailies, leading provincial papers, and magazines . . . so make sure you're well stocked with Wisdom. Extra (round-ended nylon) retails at 1/11d., natural bristle (guaranteed Chungking and Siberian) at 2/9d.

Wisdom

The de luxe toothbrush in Natural Bristle and Nylon

MADE BY ADDIS LIMITED OF HERTFORD, MAKERS OF THE FIRST TOOTHBRUSH IN 1780



THE CORRECT-SHAPE TOOTHBRUSH

MADE BY ADDIS LTD. OF HERTFORD

Put
them
to work
on your
counter!



Let one of these cheery little cards 'crown' an ALKA-SELTZER carton in *your* window, or on *your* counter. It takes up so little space, yet reminds forgetful customers to get their ALKA-SELTZER from *you*. Send now for this gay little pair



of cards to help increase your sales. The same idea is used in current ALKA-SELTZER press advertisements which are creating record sales.

Write now for these 'crowners' and display discounts to:

DON. S. MOMAND LTD.

58 ALBANY STREET, LONDON, N.W.I

Phone: EUSton 5184 (3 lines)

Sole distributors for Miles Laboratories Ltd., Bridgend, South Wales









FINE-QUALITY SHELL COMBS

A new fine-quality saw-cut shell comb for your toilet trade—Kirtessa. Distinctive in appearance; a line with a good selling appeal; competitive in price; and attractively presented in a free-of-cost display cabinet.

The display cabinet as illustrated, is given free with an order for an assortment of one gross Kirtessa Combs.

Strongly - constructed of wood, in light oak finish, the cabinet is divided into eight sections for the various sizes. The hinged lid remains upright as shown, displaying one of each size of comb.

You can obtain this excellent assortment of Kirtessa Shell Combs, plus the cabinet, at a total cost of £8-13-0, excluding Purchase Tax.

Send in Your Order Now

CONTENTS OF CABINET AND PRICES

		Retail
	To Chemist	(incl. P.T.)
No. 1 2 doz. @ 11/4	£1 2 8	1/9
2 1 ,, @ 11/4	0 11 4	1/9
3 I ,, @ 13/4	0 13 4	2/-
4 2 ,, @ 14/8 5 2 ,, @ 16/8 6 1½ ,, @ 19/4	I 9 4	2/3
5 2 ,, @ 16/8	1 13 4	2/6
6 11 ,, @ 19/4	1 9 0	3/-
7 ½ " @ 22/8 8 2 " @ II/4	0 II 4	3/6
8 2 ,, @ 11/4	1 2 8	1/9
Cost to you	£8 13 0	
Total Selling Price	15 18 0	
Purchase Tax	2 17 8	
YOUR PROFI	T £4 7 4	

MACDONALD & SON LTD.

HOPE MILLS, POLLARD STREET, MANCHESTER, 4 'Ardwick 1561-2



ideal for infants and children



'ESKACILLIN' is a palatable, easily administered, liquid penicillin for oral use. Its delicious flavour makes it the ideal penicillin for young patients.

The administration of this palatable and stable form of penicillin obviates

the necessity of injections—a notable advantage in the treatment of infants and children, especially when repeated exhibition of penicillin is indicated. Patients—

children, the aged, and others who dislike tablets or bitter mixtures—welcome the delightful flavour of 'Eskacillin'.



'Eskacillin' is available—on prescription only—in 2 fl. oz. bottles containing 800,000 I.U. of crystalline potassium penicillin G. Each medical teaspoonful contains 50,000 I.U. of penicillin.

ESKACILLIN

Trade price 135/- doz. (Tax free.) Stocks are available from your usual supplier.

MENLEY & JAMES, LIMITED, 123 Coldharbour Lane, London, S.E.5 for Smith Kline & French International Co., owners of the trade mark 'Eskacillin' March 24, 1951

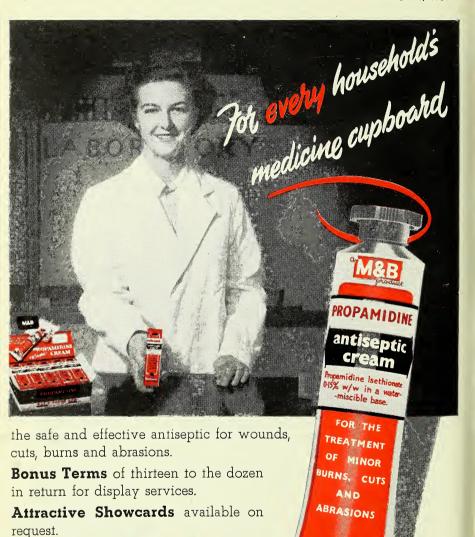


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Medical and Pharmaceutical



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DISPENSING BOTTLES

1-oz. to 20-oz. Plain-Cork Mouth or Screw. Graduated-Cork Mouth only.

RIBBED OVALS

Cork Mouth or Screw.

VIALS

½-oz. 1-oz. 1½-oz. 2-oz. & 3-oz. Medium or Tall.

TABLET BOTTLES Nos. 1 to 74 sizes.

ROUND SCREW

JARS

1-oz., 1-oz., 2-oz., 4-oz.

Round Squat Screw Jars $1\frac{1}{4}$ oz., $2\frac{1}{2}$ oz., and 4 oz.

SCREW CAPS
Black Bakelite. White Enamelled Tinplate and Satin Finish Aluminium.

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NATIONAL GLASS WORKS (YORK) LTD. 105 Hatten Garden, LONDON, E.C.1

Tel.: HOLBORN 2146



Ьу

THURGAR BOLLÉ



You do more than sell eye-protection with Thurgar Bolle sunglasses. You flatter someone's vanity—always good business.

The intriguing 1951 models, fitted with Crookes precision lenses, will again set the fashion in protective eye-wear in all parts of the world.

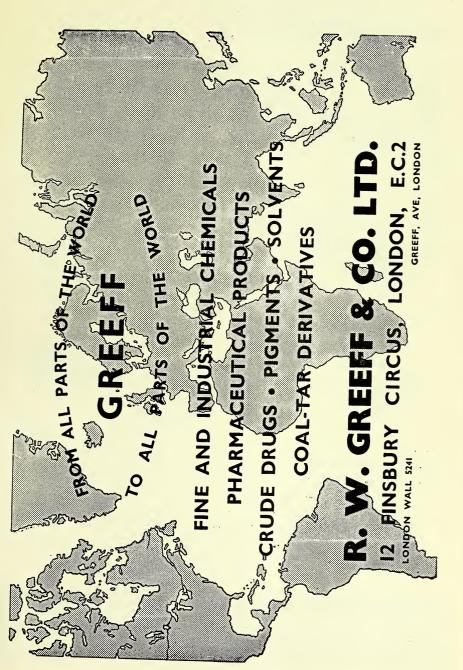
Advertised in principal fashion and women's journals. Order early from your wholesaler in time for Spring Trade.

NEW MODELS
NEW FREE DISPLAY CABINETS.

THURGAR BOLLE LTD
ORIENT HOUSE, WELLINGBOROUGH

Telephone: Wellingborough 2415

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Never before has such a comprehensive selection of sun glasses been available! The 1951 Bartlett range includes all the latest styles, materials and colours - at retail prices from 8d. to 2 guineas. To be sure of quick and profitable sales order your Bartlett's sun glasses now - our new price list is available on request.

Order from your Wholesaler

WHOLESALE ENQUIRIES ONLY TO

ALFRED FRANKS & BARTLETT CO. LTD. AUDREY HOUSE, ELY PLACE, LONDON E.C.I.

TELEPHONE HOLBORN 1078/9 (Px)

Every woman would buy

COGENE

if she only knew how good it was



We take great pride in this C.F. product which will bring you steady and profitable business. Cogene is invaluable for the rapid relief of pain:—particularly headache, toothache, neuralgia, rheumatic pains and that associated with dysmenorrhoea. The codeine content makes Cogene particularly valuable in relieving the dry, irritant cough frequently associated with colds and influenza.

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Tube of 10 - 1/3 - 8/- doz.

Tube of 20 - -2/2 - -14/- doz.

Bottle of 100 - - 8/7 - - 56/- doz.

'COGENE' TABLETS

ANALGESIC, ANTIPYRETIC, SEDATIVE

A GENATOSAN PRODUCT

GENATOSAN LTD., LOUGHBOROUGH, LEICS. PHONE: LOUGHBOROUGH 2292



Preliminary Announcement



Compiled by W. A. Whatmough, B.Sc., Ph.C., F.R.I.C.

The "C & D" KEY classification of poisons is a unique system that separates poisons into classes according to the statutory requirements governing their sale or supply.

The provisions applicable to a particular poison have to be worked out from a bewildering variety of extensions, relaxations and exemptions superimposed by the Poisons Rules and the Dangerous Drugs Regulations upon the Pharmacy and Poisons Act, 1933. Alterations since the 1944 edition of the POISONS GUIDE have been so numerous as to render previous editions quite obsolete. The extent of the changes in poisons law provisions has made it necessary to separate the Guide into two volumes—(I) classifying the poisons per se and (II) explaining the forms of supply applicable within its class.

VOLUME 1. Poisons Lists and 'Key' (Complete Classification of Poisons).

The Poisons List and the Dangerous Drugs List, as amended, are amplified into a 96-page Extended List of Poisons. Volume I classifies over 5,000 entries into sixteen self-sufficient classes. Each entry is complete in itself owing to the "Key" data for the particular poisons giving in concise form all the requirements applicable to the individual item. Self-evident "Key Symbols" assist in identifying the poisons law provisions which the Class Number groups into routine requirements according to the permissible form of supply.

VOLUME 11. Poisons Law Provisions (Co-ordinated for each Class of Poisons).

The full poisons law requirements are set out and explained in Volume II, with complete annotations to Acts, Rules, Regulations and Orders. In turn these legislative instruments are reproduced in amended form (i.e., consolidated to date of publication). Finally poisons law provisions are *co-ordinated* in simple and straightforward language under each of the sixteen classes. The reader is provided with an authoritative manual for rapid reference and quick decision.

In brief, the two Volumes comprise an encyclopædia of poisons law with Volume I summarising *what* requirements apply to the individual poison, and Volume II stating *how* these apply according to the form of supply within its class.

The Guide thus enables any supplier to become an expert in the performance of his diverse and difficult duties. The authorised seller of poisons is privileged to deal in all classes of poisons but is faced with the necessity of avoiding the pitfalls associated with indefinite, obscure or amended requirements. The systematic information in the new Guide culminates in records that provide an infallible check on compliance with all the essential provision applicable in the dispensing of Dangerous Drugs and Fourth Schedule poisons.

Hospital pharmacists and their assistants, doctors, dentists, midwives and nursing sisters are all affected by changes in poisons law.

The wholesale druggist will find much aid in enabling him to deal appropriately with requirements ranging from complying with diverse "D.D.A." authorisations to the need of avoiding sales of poisonous products to unqualified vendors. For manufacturers, the poisons labelling system with specimen labels, supplies essential details of this particular complex aspect of poisons law.

The 'C & D' POISONS GUIDE is an essential part of your business

whether manufacturing, wholesale or retail. It will safely pilot you through the intricacies of poisons legislation and provide all the information you need to comply with the law's requirements in supplying poisons by retail or wholesale.

This is the authoritative manual to the supply of poisons—a unique publication devised for rapid reference and quick decision.

VOLUME I. is just coming off the press, and supplies will be available during the next few days. Orders will be executed in strict rotation.

PRICE 20/- PER COPY

VOLUME II is in course of preparation and supplies will be available in the near future when price will be announced.

VOLUME I. will be on sale at the 1951 B.I.F.

Order now and ensure that you have your copy without delay.

Orders and remittances should be sent to THE PUBLISHER :---



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47/4

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HALIBUT OIL & MALT with Colloidal Iron	l lb.	3/4	27/9 ,, ,,
99 99 99 99 99	2 lb.	6/4	52/9 ,, ,,
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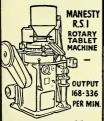
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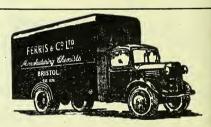
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Skin needs care ... nd baby's delicate skin needs special protection from fection. There is no finer cream than Nives ... in penetrates wn beneath the surface of the skin and nourishes the For older children, Nivea prevents chafed skin and chapped hands and they love its soft, cool smoothness. Nivea is a a bland all-purpose cream for your own cosmetic uses Skin needs the natural protective oils of the thin



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The chemist who recommends 'Tabloid' brand Aspirin deserves well of his customers. Because it is prepared to undeviating standards, this fine product is unvarying in purity, precision and promptness of effect.

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The original colourless Coal Tar Cream with all the therapeutic advantages of crude coal tar. An invaluable anti-pruritic in all forms of eczema, pruritus, psoriasis, occupational dermatitis, etc.

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For use in the symptomatic treatment of cough. A selective antitussive with a cough-depressant action more prompt and more prolonged than that of codeine. Well tolerated and non-constipating.

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A new combination in the treatment of obesity. Based on reasoned and scientific principles, it is designed to assist both physically and mentally in attaining a low-calorie diet without undue effort.



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is a liquid compound simple to apply in the home, binds the fibres of the cloth and provides an enduring crease, wear and weather resisting. A profitable REPEAT LINE stocked by the leading stores and Chemists in London and Provinces.

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Retails at 1/9 per Bottle complete with brush for application. Enough for 4 pairs of trousers. NO PURCHASE TAX. Sample orders for I doz. sent with showcard.

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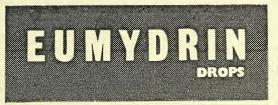
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Whooping Cough

To all pharmacists this news is important—
the period of whooping cough is at its height.
The cough, the whoop and the vomiting have been successfully controlled by the use of 'Eumydrin' (alcoholic solution 0.6%) in drop form, given in milk or water four-hourly.
It would be wise to ensure that there are ample stocks to meet any demand.

Available in bottles 15ml. with dropper.
Trade price 3/7, retailing at 4/9.





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Why not carry EVEREST

Your customers will be pleased to!

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or N. H. S

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TRADE PRICE

10 pieces per tin .. 2/6 tin

DISPENSING

PARAFFIN GAUZE

5 pieces per tin .. 1/3 tin

10 pieces per tin .. 1/7 tin

Individually wrapped

pieces 5/4 per doz

SULPHATHIAZOLE 5%

5 pieces per tin .. 1/8 tin

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ESSENTIAL

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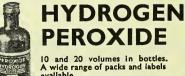
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BOTANICAL DRUG AND SPICE IMPORTERS DRUG AND SPICE MILLERS 7 LEATHER MARKET, LONDON, S.E.I



This universal liquid cleanser is now available for household use. invaluable for the weekly wash, washing-up and general house-Retails in big hold cleaning. 20 oz. bottle at 1/6.





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(CHEMISTS ONLY)

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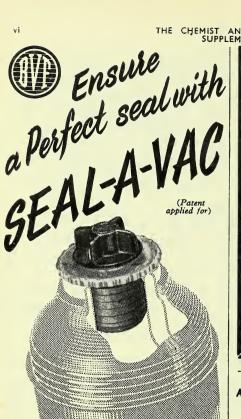
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AND DERIVATIVES

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Scientifically designed to ensure the highest thermal efficiency for flasks (hot or cold liquids). Cannot leak-is hygienic—dismantles quickly for easy cleaning - fits any one-pint flask with universal standard size neck.

Home and export enquiries invited.

Packed in attractive counter display cartons containing 24, individually packed.

RETAIL PRICE 1/8 EACH

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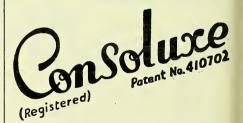
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Let us help you to solve your sunglass problems for the coming season by sending you details of the comprehensive range of beautiful sunglasses we have available, in all shapes, sizes, colours, and materials to suit all pockets. Write now to . . .

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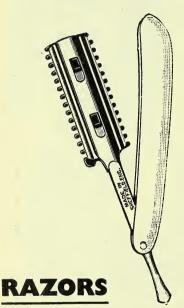
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The Durham-Duplex Razor is still being manufactured. The present shortage of raw materials may restrict this production, but every effort is being made to hold our present standard.

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chemicals to suit the needs of any

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in assorted colours

RETAIL prices:

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PENTECON · PENTECON · PENTECON

the advantages of the **PENTECON**

Autoclave THERMOSTATIC CONTROL

The thermostat, independent of the pressure factor is the most accurate means of obtaining a consistent temperature. Designed for use over a gas ring or portable burner, it is constantly in control, after initial adjustment to suit the requirements.

Made from a special formula aluminium, the 'Pentecon' is light and handy to move about. The lid design provides a steam-tight joint, which cannot be opened under pressure. To use saturated steam, allowing operation at

To use saturated steam, allowing operation at lower pressure in relation to temperature, an Air Blow-off Valve is fitted. A Pressure Regulator Valve whistles when the required temperature is reached.

The temperature of a liquid in an open vessel within the 'Pentecon' can be checked by previously inserting a chemical thermometer through a gland in the lid.

through a gland in the lid. CAPACITY—II" x 10½". Contents approx. 26 pints or seven 20 oz., or M.R.C. Standard Blood Bottles.

The 'Pentecon' is economical in price and operating costs. Price (excluding gas ring and flexible tubing, which are not £16.16.0 supplied)

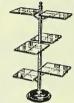
A fully descriptive leaflet will be sent, post free, on request to Dept. 3, Pentecon, Ltd., Accrington. Please mention the name and address of your normal supplier.

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AUGUST-SIM

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For all types of mixing problems in the Chemical Industry handling dry, semi-plastic and pasty materials, here is specialist equipment to meet your specific requirements.

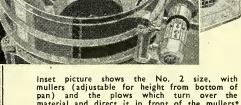
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- in capacity ranges from 1/10 cu. ft. to over 20 cu. ft. per batch.
- corrosion resistant material.
- with different weights of mullers.
- with heating and cooling jackets.
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WITH YOUR ENQUIRIES CONCERNING YOUR SPECIFIC MIXING PROBLEMS

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The AUGUST-SIMPSON MIX-MULLER Model 00 for laboratory or pilot plant work—capacity for laboratory or pilot plant work—capacity for laboratory or pilot plant work—capacity the form of the property of the pilot plant work—capacity for laboratory or pilot plant work—capacity for labo

Sole Licensees and Manufacturers of the Simpson Mix-Muller for British Empire (excluding Canada) and Continental Europe.

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Now available again COMPLETE WITH BRUSH for applying the dye

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★ NOTE NEW PRICES ★

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TALCUM POWDER	11/6d.	100%	2/3d.
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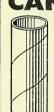
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- -and, of course, the kiddies' own
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Here Some SHOWCARDS

Hove a Look at those COLDS, FLU AND SORE THROATS dispelled HEADACHE, RHEUMATIC PAIN

NERVINESS soothes' away SWEET SLEEP TO THE SLEEPLESS



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no leakage

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